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4915 Greenspring Avenue, Baltimore, MD 21209
http://www.mdbirds.org

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Cover: Northern Rough-winged Swallow (*Stelgidopteryx serripennis*). Near its nesting cavity on a bank of the Patapsco River, Howard County, Maryland, 20 May 2007. Photographed by Bill Hubick.

Maryland Birdlife 71(1):1

EDITOR'S NOTE

The spring 2022 issue of *Maryland Birdlife* features a wide variety of articles. Suzette M. Stitely recounts finding Maryland's first Red-billed Tropicbird (*Phaethon aethereus*). Samuel R. Miller relates finding the first nesting record of White Ibis (*Eudocimus albus*) in Maryland. Jan G. Reese, Bettye J. Maki, and D. Terry Allen document unconventional nest sites used by Northern Rough-winged Swallows (*Stelgidopteryx serripennis*). Ellen J. Kreis and Jay M. Sheppard report on an observation of possible intentional or accidental infanticide in Blue-gray Gnatcatchers (*Polioptila caerulea*). Marilyn E. Veek summarizes the results of the 2021 Maryland May Count and Charles R. Stirrat summarizes the 2021 Maryland Fall Count. Mark S. Johnson and Amanda K. Subolefsky provide details of the 2021 Fall Flyway Report for the two Harford County banding stations. Mark S. Johnson acknowledges the peer reviewers for the six issues of *Maryland Birdlife* from 2019 through the 2021. Lastly, we include a brief summary of the ten Maryland Ornithological Society sanctuaries.

Eugene J. Scarpulla
Editor
birdlife@mdbirds.org

Maryland Birdlife 71(1):2–4

Maryland's First Record of Red-billed Tropicbird, *Phaethon aethereus*

Suzette M. Stitely

4335 Baildon Road, Trappe, Maryland 21673-1807
sstitely2009@gmail.com

On 5 January 2021 at 8:59 a.m., Suzette Stitely was birding at the Ocean City Inlet, Worcester County, Maryland, with Vince DeSanctis, and Jim and Alicia Bachman when she noticed a large white bird with a red bill enter the inlet. At first glance, Stitely thought it was a large tern, but then she observed the long tail streamers and realized it was a tropicbird. The Red-billed Tropicbird (*Phaethon aethereus*) is the largest of the three tropicbird species (Harrison et al. 2021). It has long white tail streamers, a white back that is finely barred in black, a black eye stripe that curves upward behind the eye, black primaries, and a red bill (Seritan and Pyle 2019). Stitely immediately took a few photos (Figure 1). The bird circled around the inlet for a minute or so and then proceeded north. Stitely quickly sent the photo to eBird Reviewer Tim Carney who confirmed it was an adult Red-billed Tropicbird. Stitely then sent a text message to Tri-County Bird Club member Marcia Balestri who went to the north Ocean City area; however, she was unable to relocate the bird. Stitely entered the sighting on the eBird app (eBird 2021a) which led to it being put on the ABA Rare Bird Facebook group (American Birding Association 2021). Despite many efforts, the bird was not relocated in Maryland nor located in Delaware.

On 11 May 2021, Phillip C. Davis, Secretary of the Maryland/District of Columbia Records Committee, notified Stitely that this sighting (Record Number MD 2021-002) of a Red-billed Tropicbird became the first accepted record of the species in Maryland (Maryland Ornithological Society 2021).

The Red-billed Tropicbird is a pelagic species (coming to land only for breeding) and the normal distribution is in warm open ocean waters of the Pacific, Indian, and Atlantic Oceans with the nearest breeding colonies in the British Virgin Islands, Puerto Rico, and other islands of the Lesser Antilles (Seritan and Pyle 2019, eBird. 2021b). There is wide dispersal after breeding and this species has been sporadically recorded all along the eastern seaboard of the United States from Florida to Maine (Seritan and Pyle 2019). In fact, a male Red-billed Tropicbird has been an annual summer visitor to Maine since 2005 (Audubon 2019, eBird 2021b).

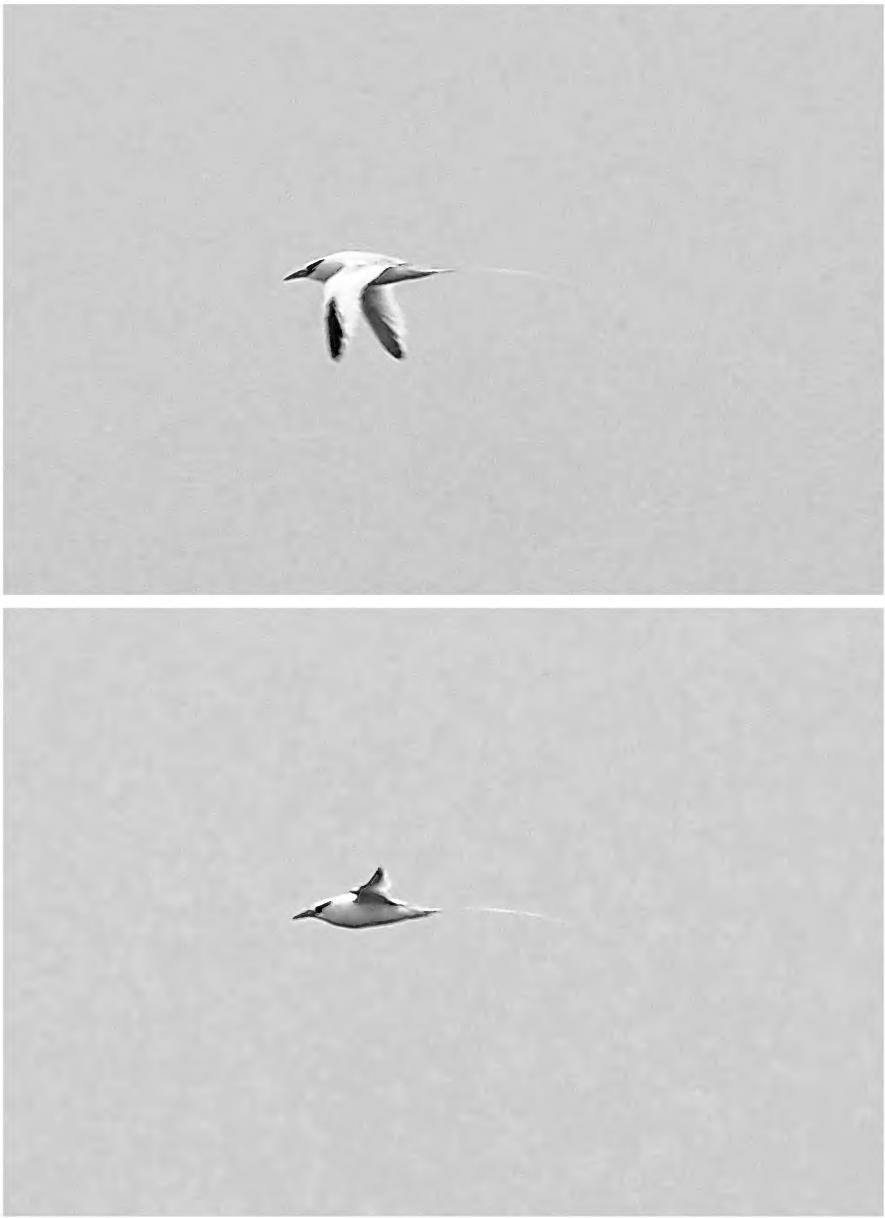

Figure 1. Red-billed Tropicbird, *Phaethon aethereus*. Ocean City Inlet, Worcester County, Maryland, 5 January 2021. **Upper:** dorsolateral view; **lower:** ventrolateral view.

ACKNOWLEDGMENTS

Stitely wishes to thank the two anonymous reviewers who made excellent changes to this manuscript.

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Maryland Birdlife 71(1):5–12

First Nesting Record of the White Ibis (*Eudocimus albus*) in Maryland

Samuel R. Miller

2489 Symphony Lane, Gambrills, Maryland 21054;
srmiller2022@gmail.com

Abstract: The White Ibis (*Eudocimus albus*) is a highly nomadic, colonial nesting waterbird inhabiting coastal locations throughout Central America, the Caribbean, and southeastern United States. Over the past decade, this species has become a common late-summer and fall migrant to coastal Maryland. In more recent years, the abundance of White Ibis in Maryland has increased noticeably, and spring migrants have become commonplace as their colonies continue to thrive south of the state. While breeding in Maryland has been speculated, any possible nesting has gone undetected for some time. In June of 2020, I joined a skilled group of Maryland birders on a trip to the southern Chesapeake Bay with the goal of surveying the great diversity and abundance of breeding waterbirds that inhabit its islands. Here I present our most notable finding, the discovery of Maryland's first White Ibis nest on Swan Island in Somerset County. Our surveys of the southern Chesapeake Bay highlight the importance of its habitats for the breeding success of waterbirds in Maryland, as well as the potential for such remote sites to hold unexpected or undocumented species breeding within the state.

On the morning of 6 June 2020, I embarked on a trip to the southern Chesapeake Bay with Daniel Irons, Jonathan Irons, Mike Irons, and Jack Hutchison. At 0630 we departed Big Water Farm onboard the Irons' boat, the *Cast Iron* with the goal of surveying the relatively remote islands of the southern Chesapeake Bay for the "Maryland & DC Breeding Bird Atlas 3" project. We boated south over the course of the morning and early afternoon, surveying locations along the way such as Adam, Holland, Spring, and Cherry Islands. At 1530, we arrived at Swan Island. Swan Island lies within the eastern edge of Martin National Wildlife Refuge (NWR) in Somerset County, ~0.75 km (~0.5 mi) north of Smith Island. Martin NWR is part of the Chesapeake Marshlands NWR Complex. Swan island is bordered by a Herring Gull (*Larus argentatus*) colony nesting in dry dune grasses to the east, sandy shorelines to the north and south, and a 1.5–3 m (5–10 ft) sandy bank to the west where waves have eroded away at the island. The island vegetation is very dense, with arboreal vegetation in the center, surrounded by thick blackberry (*Rubus* sp.) and honeysuckle (*Lonicera* sp.) thickets.

As we neared the island on boat, we could see signs of a bustling colony, with dozens of Glossy Ibis (*Plegadis falcinellus*) circling above the island. We also observed Great Egrets (*Ardea alba*), Snowy Egrets (*Egretta thula*), Little Blue Herons (*Egretta caerulea*), Tricolored Herons (*Egretta tricolor*), Black-crowned Night-Herons (*Nycticorax nycticorax*), and Yellow-crowned Night-Herons (*Nyctanassa violacea*) entering and departing their nests on the island. As we circled the island sampling the rookery composition, I noticed a lone adult White Ibis (*Eudocimus albus*) perched atop an eastern redcedar (*Juniperus virginiana*) on the western edge of the island (Figure 1). We observed this bird for a few minutes before circling the island once more. Upon our return to the eastern edge of the island, a second adult White Ibis had materialized, perching next to the original bird (Figure 2). At this point, the group was well aware of the possibility that this pair could be nesting within the rookery. We patiently waited for the birds to exhibit any sort of breeding behavior, but to no avail. The two White Ibis remained together for the duration of our 2-hour survey and were often heard vocalizing. As thunderstorms began to move in from the west, we departed Swan Island and boated north to Channel Island for our last survey of the evening. We were able to briefly return to Swan Island before sunset but did not observe either White Ibis.

The next morning, 7 June 2020, we again surveyed Swan Island in hopes of confirming the White Ibis. We immediately noticed an adult White Ibis dropping into the colony and shortly after, Jonathan spotted the nest with three chicks inside. Throughout the morning we watched as both adults visited the nest to tend to their young (Figures 3 and 4).

The nest was positioned near the edge of the rookery, 3–4.6 m (10–15 ft) off the ground within the dense blackberry tangles that surrounded the island. It was unlike any of the Glossy Ibis nests in that it was placed within a carved-out cavity in the thickets rather than within the trees near the center of the island. Within the cavity, a shallow platform had been constructed of sticks, and within it laid three all-black downy young. Their bills were a tan orange with a black base and tip. Throughout the morning we observed both adults visit the nest one at a time. While observing the White Ibis nest, Daniel spotted a White-faced Ibis (*Plegadis chihi*) dropping into the colony with a large group of Glossy Ibis. Most Glossy Ibis nests were placed out of view within the center of the island, making the odds of confirming a potential White-faced Ibis nest low. We were never able to resight the White-faced Ibis, but believe it could have been paired with a Glossy and nesting within the rookery.

Figure 1. Adult White Ibis (*Eudocimus albus*) perched atop an eastern redcedar (*Juniperus virginiana*). Swan Island, Somerset County, Maryland; 6 June 2020.

Figure 2. Adult White Ibis pair. Swan Island, Somerset County, Maryland; 6 June 2020.

Figure 3. Adult White Ibis in the nest. Swan Island, Somerset County, Maryland; 7 June 2020.

Figure 4. White Ibis nestling in the nest. Swan Island, Somerset County, Maryland; 7 June 2020.

Previous flight-line counts of the Swan Island rookery by the Maryland Department of Natural Resources (MD-DNR) in 2018 found it to be largely dominated by Glossy Ibis, followed in order of decreasing abundance by Great Egrets, Little Blue Herons, Great Blue Herons (*Ardea herodias*), Tricolored Herons, Snowy Egrets, Yellow-crowned Night-Herons, and Black-crowned Night Herons (MD-DNR, unpublished data). We found this to be generally consistent with our 2020 surveys with the exception of Great Blue Herons which seem to have abandoned nesting at Swan Island. The MD-DNR survey crew did observe two adult White Ibis fly in and circle over Swan Island in 2018, though they never landed. No White-faced Ibis were observed during their surveys.

DISCUSSION

The White Ibis is a colonial nesting waterbird inhabiting coastal locations throughout Central America, the Caribbean, and southeastern United States. In North America, the White Ibis maintains a core breeding population along the Gulf Coast from Texas to Florida, and along the Atlantic Coast from Florida to Virginia. White Ibis are highly nomadic breeders, with a notable propensity to disperse distances up to 1,300 km (808 mi) in search of potentially unpredictable food sources (Frederick et al. 1996). Such ability to find food sources at large spatial scales contributes to their success as nomadic breeders, providing the capacity to strategically abandon or colonize new nesting locations due to varying food and habitat conditions (Frederick et al. 1996).

Historically, the White Ibis's North American breeding range was restricted to the extreme southeast, and prior to the 1940s there were no known large colonies outside of Florida (Frederick and Ogden 1997). By the early 1940s, White Ibis began nesting regularly in South Carolina, establishing a new northern breeding limit at the time (Sprunt 1944). Nesting records continued to progress north along the coast, with North Carolina's first nesting record discovered in 1950 when 1,200 birds nested at Lennons Marsh in the southern portion of the state (Stephens 1950). This colony abandoned the site shortly thereafter, though a permanent colony was discovered 13 years later on Battery Island, North Carolina (Adams 1963, as cited in Shields and Parnell 1983). In 1971, two nesting pairs were discovered ~150 km (~93 mi) northeast of Battery Island on Phillips Island, North Carolina, establishing a new northernmost nesting record for the species (Shields and Parnell 1983). In 1977, a single nest was discovered in Virginia on Fishermans Island, ~270 km (~168 mi) northeast of the previous northernmost nesting limit (Frohring and Beck 1978).

While White Ibis continued to expand breeding colonies northward throughout the late 1900s, they were still a rare occurrence in Maryland. It was not until the 2010s when post-breeding White Ibis began to disperse regularly into coastal Maryland during the late summer and fall. This interestingly follows a year of

record breeding abundance for wading birds in Southern Florida when 47,001 White Ibis nests were recorded in 2009 by the Southern Florida Water Management District (SFWMD) annual wading bird report (Cook and Baranski 2019). Since then, White Ibis have become increasingly abundant in Maryland, as seen by eBird reports within the state (eBird 2021) (Figure 5). Flocks numbering in the hundreds have become regular in Worcester County, with smaller numbers occurring regularly in the neighboring Somerset County, and increasing records of wandering individuals elsewhere throughout the Coastal Plain and Piedmont regions. In more recent years, White Ibis have become an increasingly frequent spring and early summer migrant in coastal Maryland. This along with the development of a breeding colony in Chincoteague, Virginia, continued to fuel speculation that the species could be nesting within the state.

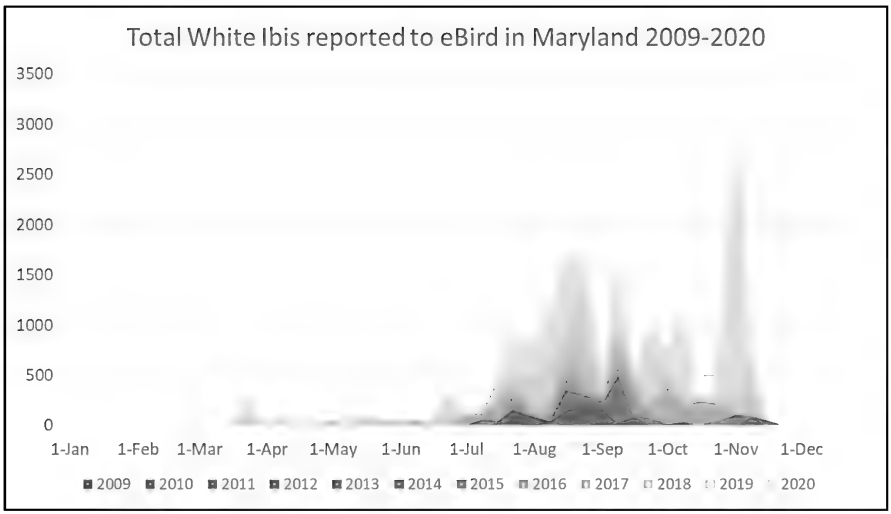

Figure 5. Summative yearly totals of all counts from all observations of White Ibis (*Eudocimus albus*) reported to eBird within Maryland, 2009–2020 (eBird 2021).

The nomadic nature of White Ibis, paired with irruptive breeding events in the heart of their range, may account for the increasing number of nesting instances northward along the Atlantic Coast. In 2018, over 100,000 White Ibis nests were recorded in Southern Florida by SFWMD, nearly five times the 10-year average and more than double the previous 2009 record (Cook and Baranski 2019). These birds have the highest propensity to disperse northward in their first and second years of life (Frederick et al. 1996) and reach sexual maturity at the age

of 2 years (Heath et al. 2020). Therefore, it is possible, however purely speculative, that this event produced birds breeding well north of their usual range, and potentially Maryland's first breeding pair in 2020. It is worth noting that New Jersey's first White Ibis nests were also documented in 2020 (Johnson 2020a, 2020b, 2020c).

Our findings at Swan Island further indicate the potential for other rare or unreported breeders (i.e., White-faced Ibis) to occur at relatively remote and under-birded locations within the state and highlight the importance for coverage of such areas. The islands of the southern Chesapeake Bay provide unique and undisturbed habitats for the great diversity and abundance of waterbirds that inhabit them. The survival of these waterbirds is intrinsically tied to the availability and continued protection of these sensitive habitats in which they nest.

NOTE: The rookeries of Martin NWR are closed to human access to ensure the safe nesting of these birds, including Maryland's first White Ibis nest, so that they may continue to survive and proliferate in Maryland. Please respect and adhere to all rules and regulations of Martin NWR in order to maintain the natural beauty and ecological functionality of its unique and sensitive habitats.

ACKNOWLEDGMENTS

I would like to thank Mike, Daniel, and Jonathan Irons for organizing this trip and making it possible by providing boat transportation on board the *Cast Iron*. I would like to acknowledge Jack Hutchison and the Irons brothers for their field skills and observations that collectively led to this discovery. I also thank Matthew W. Whitbeck (Supervisory Wildlife Biologist, Chesapeake Marshlands National Wildlife Refuge Complex) who provided data from the 2018 MD-DNR colonial waterbird surveys as well as insightful comments throughout the drafting of this manuscript. Finally, I also extend thanks to two anonymous reviewers for their edits and advice that improved the manuscript.

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Maryland Birdlife 71(1):13–25

Northern Rough-winged Swallow (*Stelgidopteryx serripennis*) Unconventional Nest Site

Jan G. Reese[1*], Bettye J. Maki[2], D. Terry Allen[3]

[1]*P.O. Box 298, St. Michaels, Maryland 21663*
[2]*7448 Jeffreys Way, Easton, Maryland 21601*
[3]*8432 Colonial Circle, Easton, Maryland 21601*
[*]*Corresponding author: reesejan@ymail.com*

Abstract: We first found a Northern Rough-winged Swallow (*Stelgidopteryx serripennis*) on 11 April 2010 going in and out a vent hole in the superstructure beneath a truck-trailer parked temporarily at the loading dock of a retail store in a commercial shopping center/business park in Easton, Maryland. A total of one to eight swallows could be found in the vicinity of the trailer in early-April each year of the following decade even though we never observed more than one pair utilizing the nest site or witnessed evidence of reproductive success (i.e., vocal nestlings, fledglings). This unconventional nest site sparked curiosity and initiated literature research for possible artificial nest sites at areas of dense development in other regions of the country. This communication provides numerous examples of nest sites in artificial cavities, including nine others (plus two unpublished) in truck-trailers. Our observations and literature research found Northern Rough-winged Swallows almost always nest solitarily, frequently nest in areas of urban development, and will utilize any suitable natural or artificial cavity for nesting.

Keywords: cavity nesting, Northern Rough-winged Swallow, *Stelgidopteryx serripennis*, truck-trailer, unconventional nest site, urban landscape

Northern Rough-winged Swallow (*Stelgidopteryx serripennis*) biology appears poorly understood and sometimes contradictory, thus inviting study. For example, several observers report them excavating nest cavities in earthen banks (Hoxie 1901, Bailey 1913, Weydemeyer 1933, Dingle 1942, Potter et al. 1980, Peck and James 1987). Conversely, the two most comprehensive Northern Rough-winged Swallow studies Lunk (1962) in Michigan and Skutch (1960, 1981) in Costa Rica, give no evidence they excavate burrows. Other observations in the literature provide support indicating the opportunistic swallows will utilize crevices in rocks, holes in earthen banks, abandoned burrows of other species such as Bank Swallows (*Riparia riparia*), Belted Kingfishers (*Megaceryle alcyon*), or small rodents, etc. (Skutch 1960, Harrison 1975, Peck and James 1987, Jackson 1993, Walsh et al. 1999), and artificial cavities (Hoxie 1901, Doolittle 1919, Chapman 1938, Harrison 1975, Peck and

James 1987, Hill 1988, Stedman and Simbeck 1988, Clapp 1992, Michael 1992, Eaton 1993, Sheppard 2004, Campbell 2010, Payne 2011). De Jong (2020) suggests perhaps some observers mistook Northern Rough-winged Swallows as digging a new earthen burrow while actually cleaning-out or modifying for their own use an existing hole or abandoned burrow of another species.

We present here our observations at an unconventional Northern Rough-winged Swallow nest site. A swallow, first seen by DTA and JGR on 11 April 2010, flying just above the ground exhibiting behavior suggestive of affinity for the underside of a truck-trailer (i.e., tractor-trailer, semi-trailer) parked at a loading dock behind a Target® big-box department store in the Waterside Village Shopping Center in west Easton, Talbot County, Maryland. Front-end inspection of the trailer belly revealed vent holes 10–15 cm (4–6 in) in diameter on either side of the central skid plate (Figure 1). The vent holes prevent moisture and road spray entrapment within the trailer's steel superstructure while providing access to an expansive superstructure cavity with a floor to ceiling depth about 7 cm (3 in). Visibility into the cavities is limited to that near the opening where grasses could be seen covering the floor near one of the vent holes. In view of this unconventional nest site location, we question whether others may have published similar observations.

METHODS

We continued annual periodic monitoring of this unconventional nest site through the subsequent decade (2011–2020) while during this time we became privy to nesting use of truck-trailers at other nearby businesses. Additionally, the 2020 literature research revealed that many such Northern Rough-winged Swallow unconventional nest sites in close proximity to one another are not unique. In view of these factors, in November 2021, we chose to census a 907.6 ha (2,242.7 ac) portion of the urban complex of retail stores and businesses exhibiting truck-trailers parked temporarily at loading docks and/or permanently in place for materials or equipment storage with potential use for swallow nesting in spring.

RESULTS

The landscape overview (Figure 2) shows typical urban commercial development characterizing a 907.6 ha area of the shopping center/business park in the vicinity of the Target and continuing north and east. Mowed grass on undeveloped lots and fallow vegetation along stormwater drainages can be found within this area. The tidal Tred Avon River headwaters and wetlands bound south of the area, and undeveloped forest bound west.

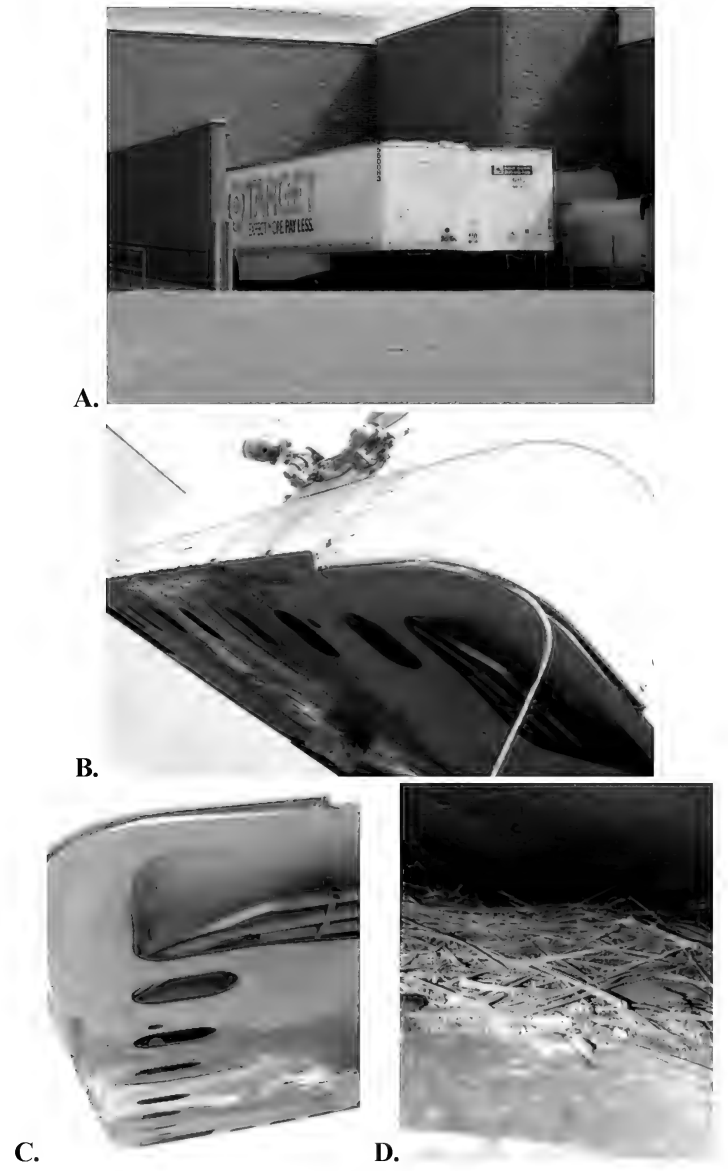

Figure 1. Northern Rough-winged Swallow (*Stelgidopteryx serripennis*) unconventional nest site in a temporarily parked truck-trailer, Easton, Talbot County, Maryland. A) Overview of trailers at loading dock; **B)** superstructure skid plate and vent holes beneath the front of the trailer; **C)** cavity created by double-wall construction of the skid plate; and **D)** grasses on the floor of the cavity near the vent hole.

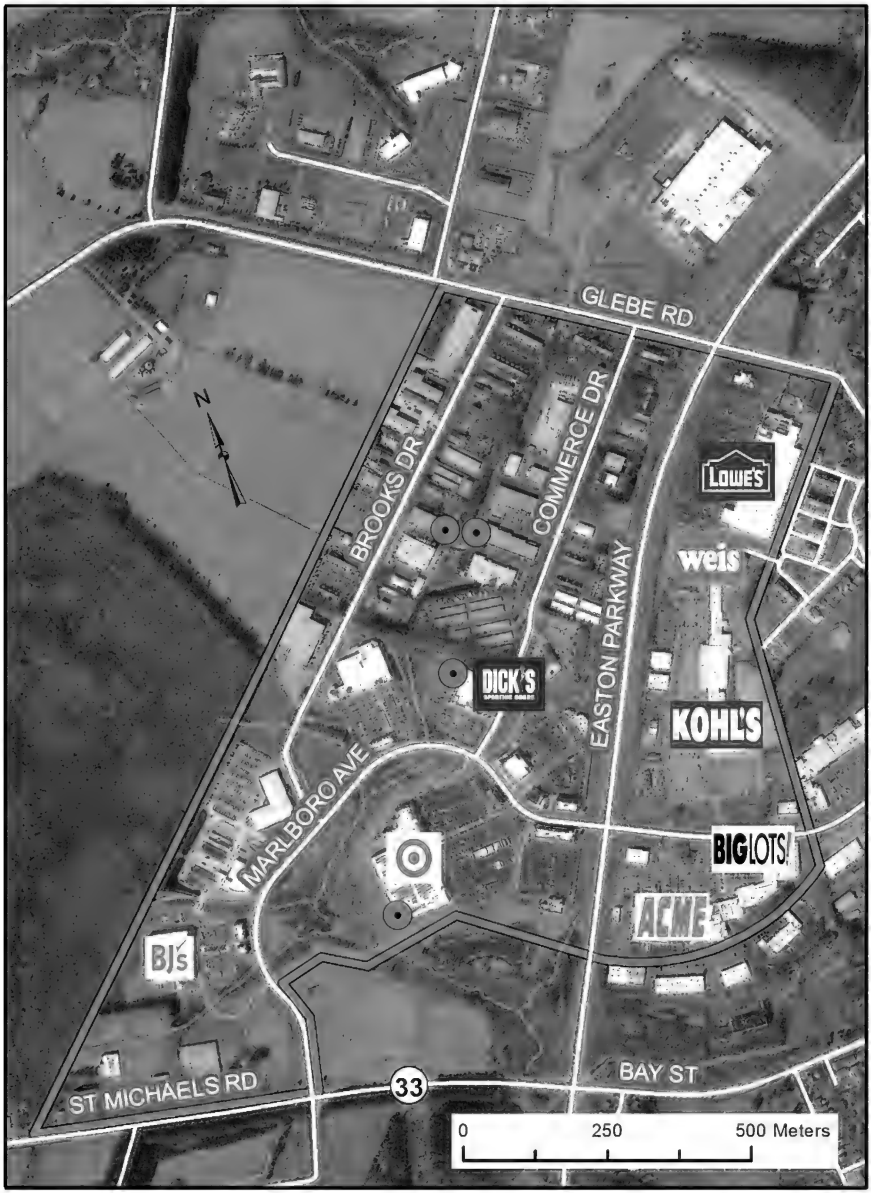

Figure 2. Spatial overview of the landscape in proximity to the Target store (red-and-white target symbol) nest site location, Easton, Talbot County, Maryland. Green dots indicate truck-trailer nest sites.

We found one to eight Northern Rough-winged Swallows in the vicinity of the loading dock and adjacent stormwater pond at the Target during 1–8 April each year of 2010–2021; yet, in no year did we observe more than one pair of swallows frequenting vent holes on the underside of a truck-trailer despite two trailers being available there at times. The horizontal cavity depth, low ceiling, and lack of illumination limited visibility to just inside the vent hole where a layer of grasses could be seen (Figure 1). Thus, nest contents could not be viewed directly while swallows quickly returning to the cavity after we vacated the immediate area suggests the nest had contents needing attention. We neither saw nor heard any evidence of reproductive success (i.e., vocal nestlings, fledglings) when visiting the site in any year.

In April 2016, we became privy to an active Northern Rough-winged Swallow nest in a free-standing truck-trailer permanently residing besides a nearby building about 685 m (0.4 mi) NNE of the Target (Figure 2). We subsequently found nesting swallows utilizing other nearby truck-trailers: In April 2018, DTA found a nest site in another truck-trailer temporarily parked at the loading dock of a retail store about 435 m (0.3 mi) NNE of the Target, and in October 2021, BJM found another nest site within a truck-trailer permanently in use for materials storage at a business park site about 695 m (0.4 mi) NNE of the Target.

DISCUSSION

The Northern Rough-winged Swallow is not generally thought of as a species inhabiting and nesting in areas of urban development such as the European Starling (*Sturnus vulgaris*) and House Sparrow (*Passer domesticus*); however, the literature indicates they are no stranger to these habitats (Table 1). Equally unusual is how did the swallows nesting at the Target find an overhead opening to a superstructure cavity just a little over 1 m (~3 ft) above the ground on the underside of a truck-trailer? De Jong (2020) notes, "The Northern Rough-winged Swallow is an aerial forager adept at low-elevation flight over fields and along narrow gullies and other irregular terrain." Given sophistication of their flight abilities, a loading dock wall obstructs one side and the buildings brick wall another of the truck-trailer nest we report at the Target leaving little room for flight navigation. Campbell (2010) noted similar tight flying quarters for swallows found nesting inside of a shallow opening between the ceiling and some air-conditioning ducts inside her home automobile garage in Georgetown, Vermilion County, Illinois.

The available literature discloses Northern Rough-winged Swallow historical reliance on natural crevices and cavities, other species abandoned burrows (Dingle 1942, Lunk 1962, Harrison 1975, Peck and James 1987, Michael 1992), or artificial structures (Table 1) for nest sites. Use of the latter may have

provided the species more nest site choices, a safer location with improved reproductive success, and/or allowed for an expansion of its range (Lunk 1962, Airola and Kopp 2008, Wolinski 2011). Nesting within the superstructure of a stationary truck-trailer is not new or unique with examples in the literature dating back at least 35 years (Stedman and Simbeck 1988).

Table 1. Northern Rough-winged Swallow unconventional nest sites.

Date	State	Nest Site	Reference
Pre-1901	VA	Cavity of hawse-pipe aboard a tugboat	Hoxie 1901
19 Jun 1913	AL	Cavity in buttress of steamboat	Howell 1924
10 Jun 1915	IL	Cavity in dead tree	Eifrig 1919
Pre-1919	OH	Drainage pipes projecting from concrete retaining wall	Doolittle 1919
6 May 1938	OH	Swimming pool overflow pipe flush with concrete wall	Chapman 1938
Pre-1942	SC	Cavity in abandoned oyster shell kiln	Dingle 1942
Pre-1942	?	Cavity in timber under wharf	Dingle 1942
2 Jun 1944	MI	Atop a tool cabinet in a garage	Nickell 1949
9 May 1961	VA	Cavity in abandoned pile of sawdust	Steirly 1961
Spring 1978	SD	Cardboard boxes in shed/ outbuilding	Husmann 1981
Summer 1981	PA	Seepage pipes in concrete wall at Union City Dam complex	Hill 1988
25 May 1986	TN	Cavity in superstructure of temporary parked #1 truck-trailer	Stedman & Simbeck 1988
25 May 1986	TN	Cavity in superstructure of temporary parked #2 truck-trailer	Stedman & Simbeck 1988
25 May 1986	TN	Cavity in superstructure of permanent parked #3 truck-trailer	Stedman & Simbeck 1988
18 May 1987	TN	Cavity in superstructure of temporary parked #4 truck-trailer	Stedman & Simbeck 1988
27 Jun 1987	VA	Cavity in superstructure of permanent parked #1 truck-trailer	Clapp 1992

Date	State	Nest Site	Reference
16 May 1989	MS	Root holes in dirt adhering to overturned trees	Jackson 1993
5 May 1991	VA	Cavity in superstructure of temporary parked #2 truck-trailer	Clapp 1992
24 May 1992	WA	Drain pipe in concrete bulkhead along tidewater	Michael 1992
7 Jul 1992	NY	Unoccupied Purple Martin nest box along lake shoreline	Eaton 1993
Feb 2002–2007	CA	Cavities & holes in structures beneath numerous bridges	Airola and Kopp 2008[a]
5 Jun 2003	MD	Cavity in superstructure of permanent parked #1 truck-trailer	Sheppard 2004
29 Apr 2004	MD	Cavity in superstructure of permanent parked #1 truck-trailer	Sheppard 2004
20 Jun 2005	MD	Cavity in superstructure of temporary parked #1 truck-trailer	Webb, in litt., 2022
6 Jun 2006	MD	Cavity in superstructure of temporary parked #2 truck-trailer	Webb, in litt., 2022
15 Jun 2006	MD	Drainage pipe projecting from side of building	Webb, in litt. comm., 2022
17 Jul 2009	IL	Ceiling cavity in private home automobile garage	Campbell 2010
17 Jul 2009	IL	Cavities & holes in structure beneath bridge	Campbell 2010[b]
Apr 2010–2021	MD	Cavity in superstructure of temporary parked #1 truck-trailer	This study
Apr 2011	VT	Cavity in superstructure of temporary parked truck-trailer	Payne 2011
Apr 2016	MD	Cavity in superstructure of permanent parked #2 truck-trailer	This study
Apr 2018	MD	Cavity in superstructure of temporary parked #3 truck-trailer	This study

[a] Includes numerous nests under bridges during 2002–2007 study.
[b] Swallows nesting under this bridge since late 1970s.

In 2010, and each year thereafter, a pair of swallows utilized a truck-trailer unconventional nest site in the loading dock of the recently built Target. Northern Rough-winged Swallow continuous annual allegiance to an unconventional nest site is reported in other studies (Blake 1907, Husmann 1981, Hill 1988, Sheppard 2004, Airola and Kopp 2008, Campbell 2010), while some studies suggest their sites may have been active prior to the years of their discovery (Blake 1907, Hill 1988, Sheppard 2004).

We never found more than one pair of swallows with an active nest site in the trailer(s) at the Target; however, the literature research found multiple incidences of Northern Rough-winged Swallows nesting in close proximity to one another. Doolittle (1919) relates multiple nests in 12 drainage pipes projecting from a concrete retaining wall in Painesville, Lake County, Ohio. Similarly, Chapman (1938) found two swimming pool overflow pipes about 11 cm (4 in) apart with each containing an active nest in Scioto County, Ohio. Peck and James (1987) report borrow pit colonies with up to 25 pairs in southern Ontario, Canada. Stedman and Simbeck (1988) found several truck-trailer nest sites within one business park in Clay County, Tennessee. Hill (1988) relates 44 Rough-winged Swallow nests in seepage pipes set in a concrete wall of the Union City Dam complex in Erie County, Pennsylvania. Sheppard (2004) found four swallows, an active nest, and an inactive nest in a single truck-trailer in Anne Arundel County, Maryland. Airola and Kopp (2008) found up to five active swallow nests in close proximity to one another in abutment structure crevices and holes beneath a bridge in jurisdictional Sacramento, California. These examples indicate the opportunistic Northern Rough-winged Swallow may nest in close proximity to one another where there is an abundance of suitable cavities.

Our November 2021 census tallied 19 other potential truck-trailer nest sites within a 907.6 ha area (Figure 2) engulfing the Target, while 12 of these had loading docks and/or truck-trailers present suggesting the trailers may contain merchandise or supplies but only remain in place until depletion of their contents. Trailers at these sites may have the best potential for attracting swallows during the April–May nesting season. Calculations using half (6) of the best potential sites, plus the four known nest sites (i.e., total = 10) equates to 0.01 swallow nest/ha (nest/2.5 ac) in the 907.6 ha portion of the shopping center/business park complex. This theoretical example is indeed a surprising density of nesting Northern Rough-winged Swallows to be found in an urban landscape.

Lacking evidence of reproductive success at the Target site may be due to infrequent site visits and/or a full-trailer replacement of an empty trailer, in which case an active nest in the latter would have gone to a distributer's loading dock at a distant location. The swallows frequented the area of the replacement

trailer a few days before disappearing in at least one known such incident. Both Stedman and Simbeck (1988) and Clapp (1992) relate the same swallow reaction with removal of their truck-trailer nest site in Lawrence County, Tennessee and Loudoun County, Virginia respectively. Conversely, Hoxie (1901) describes an active nest aboard an ocean-going tugboat operating out of Port Royal, Beaufort County, South Carolina making three trips a week 12 km (7 mi) upriver to Beaufort with the swallows following along. Subsequently the swallows had eggs in the nest when the tug left for five days at sea to remove a drifting ship with the swallows again tagging along. However, during the trip the swallows lost their nest to high seas. Pausing a few days upon return to Port Royal, the swallows then began to re-nest in the same hawse-pipe aboard the tug. Howell (1924) cites a 19 June 1913 nest with nestlings in the buttress of a Tennessee River steamboat that made daily 15 km (9 mi) trips between Guntersville, Marshall County and Huntsville, Madison County, Alabama with the adult swallows following the vessel to brood and feed their nestlings. Michael (1992) notes 31 May 1992 evidence of hatchlings in an active nest within a drainpipe set in a concrete bulkhead along tidewater in King County, Washington. In Clapp (1992), an observer relates seeing nestlings in a truck-trailer nest site in late June 1987 at an Interstate-64 Bowers Hill Interchange construction site in eastern Chesapeake, Virginia. Nestlings could be heard in two truck-trailer sites plus another in a drain pipe during June of 2005–2006 at Aberdeen Proving Ground, Harford County, Maryland (David Webb, in litt., 17 February 2022). Airola and Kopp (2008) found numerous nests with nestlings during a 2002–2007 study of swallows utilizing abutment crevices beneath bridges in Sacramento, California. Campbell (2010) found nestlings on 17 July 2009 in a garage ceiling cavity nest in Georgetown, Vermilion County, Illinois.

Another factor in failure to detect reproductive success at the Target site may be the 6 June 2015, observations by JGR of a European Starling repeatedly flying directly into the vent hole leading to a swallow's nest and shortly coming out with a bill full of nest material. Husmann (1981) notes a starling displacing swallows from their nest in a shed in Day County, South Dakota, while Clapp (1992) relates a swallow and a starling separately carrying nest material into the superstructure cavity of two widely separate truck-trailers in the same loading area in Loudoun County, Virginia with both trailers missing the next day. Airola and Kopp (2008) found starlings near active swallow nests beneath bridges in Sacramento, California, but saw no evidence of interaction between the two species. The tiny buttress crevices into the swallow nests may have precluded the larger starling access.

In view of the flying-insect diet of swallows using an unconventional nest site within a landscape habitat of urban development begs questioning, "What is the food source sustaining the swallows and/or their nestlings?" Flying insects found in nearby fallow vegetation along a linear stormwater drainage and

collecting pond, mowed grass on undeveloped lots, and tidal wetlands at the head of the Tred Avon River may provide food for swallows nesting at the Target in Easton. Swallows nesting in more densely urban landscapes while obtaining insects at more distant natural habitats seems an impractical practice that could seriously burden energy demands on the nesting swallows and jeopardize growth of their nestlings. Irrespective of the degree of impervious surfaces in the surrounding urban landscape of nesting swallows, consideration should be given to the attraction of flying insects to the 24-hour artificial lighting in such developed areas.

The literature research of national and regional ornithological journals and reference books in the Literature Cited section provides a meaningful sample of Northern Rough-winged Swallow unconventional nest sites, including many truck-trailer sites (Table 1). These studies and our field observations support the hypothesis of Dingle (1942) and Lunk (1962) that Northern Rough-winged Swallows will use any existing suitable natural or artificial cavity for nesting.

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ADDENDUM

Chapman, with his observation of Northern Rough-winged Swallows nesting in swimming pool drain pipes in Scioto County, Ohio in May 1938, may have been the first person to suggest encouraging Northern Rough-winged Swallow nesting by purposely emplacing artificial nest structures (short lengths of pipe) in walls where natural earthen banks have been stabilized with stone. Heeding this suggestion in 1949, Lunk (1962) designed and built 21 artificial nest sites using fiber duct with a screen liner that could be slid-out allowing nest content viewing unlike the inability to see nest contents in the deep natural burrows. Lunk then dug holes for the tubes into earthen walls at scattered locations about a large borrow pit operation near Dixboro, Washtenaw County, Michigan in 1950–1952 with 19 (90%) becoming occupied during the period. The high artificial nest site occupancy seems reasonable being among other swallows actively nesting in natural earthen burrows within the pit, while enabling Lunk to initiate the most comprehensive study ever done on the species. This artificial nest site success indicates providing structures may be a useful management tool in retaining swallow nesting after impervious material stabilization of banks. Additionally, putting up artificial nest sites may attract nesting swallows to new areas beyond their regional range, or to new physiographic habitats lacking earthen banks. Lunk (1962) contains sketches of his tube nest design, while Miller (2011) shows a more contemporary offering.

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Possible Intentional or Accidental Infanticide in Blue-gray Gnatcatchers (*Polioptila caerulea*)

Ellen J. Kreis[1] and Jay M. Sheppard[2,*]

[1]*1189A Della Road, Dickerson, Maryland 20842, USA; ellen.kreis@gmail.com*
[2]*3359 Cranberry South, Laurel, Maryland 20724, USA;*
**Corresponding author: jaymsheppard95@gmail.com*

On 19 May 2021, Kreis discovered an active nest of a Blue-gray Gnatcatcher (*Polioptila caerulea*) in southern Frederick County, Maryland. At the time of discovery, a male gnatcatcher was photographed on the nest, which is normal behavior for brooding or incubating males. The nest was situated in a boxelder (*Acer negundo*) at an estimated height of 5 m (16 ft).

A week later on 25 May 2021, the nest was again visited briefly by Kreis. As the nest was being watched, a male gnatcatcher arrived at the nest and was photographed by Kreis peering into it (Figure 1). No food was observed, but it may have been delivered. While continuing to photograph the nest, the male departed with something in its beak. It was only upon later examination of the images that it was discovered that the object was a young nestling (Figures 2 and 3). The yellow gape of the young bird can be clearly seen to be wide open, the body is pink, and the appendages are extended to varying degrees. These characters suggest it was, at that time, a live gnatcatcher chick. From its size, its age is estimated to be only a day or two old. The nest was visited a third and fourth time on 1 and 2 June 2021. At those times, a Brown-headed Cowbird (*Molothrus ater*) nestling was all that could be seen and photographed in the nest (Figure 4). It is unknown if there were other gnatcatcher nestlings and their fate before or after the Figures 2 and 3 photos. No further observations at the nest were made.

Kershner and Ellison (2020) make no mention of infanticide or any other behavior of adult gnatcatchers carrying nestlings from their nest. A check of some of the relevant literature on this subject shows a limited number of observations of adult conspecifics removing nestlings (or eggs). Crook and Shields (1985) reported unmated male Barn Swallows (*Hirundo rustica*) removing all nestlings from a potential mate's nest. Female Tree Swallows (*Tachycineta bicolor*) sometimes removed all nestlings of a nest where the previous female had been removed (Chek and Robertson 1991). Similar behavior in a female Purple Martin (*Progne subis*) was reported by Loftin and

Figure 1. Blue-Gray Gnatcatcher (*Polioptila caerulea*) male peering into the gnatcatcher nest. Photographed by Kreis on 25 May 2021.

Figure 2. Blue-Gray Gnatcatcher male with a live gnatcatcher nestling in its bill. Photographed by Kreis on 25 May 2021.

Figure 3. Blue-Gray Gnatcatcher male flying off with a live gnatcatcher nestling in its bill. Photographed by Kreis on 25 May 2021.

Figure 4. Blue-Gray Gnatcatcher male (upper) and female (lower) observing the Brown-headed Cowbird (*Molothrus ater*) nestling in their nest. Photographed by Kreis on 1 June 2021.

Roberson (1983). Romagnano et al. (1986) reported European Starling (*Sturnus vulgaris*) possibly committing infanticide in three cases and documented attempted infanticide in one case. House Sparrow (*Passer domesticus*) males would remove all nestlings of a nearby nest if they lost their own mate; female sparrows removed nestlings of other females in order to gain more paternal support for their own brood (Veiga 1990). Sheppard (1996) observed a female cowbird attempting to remove nestlings of a Kentucky Warbler (*Geothlypis formosa*), as well as one cowbird chick. In all of the above reports, the entire brood was removed or was attempted to be removed.

In this observation, there is no way to confirm the identity of the male gnatcatcher removing the nestling as being the male of that nest or an intruder. As there were no defending gnatcatchers present suggests that this was the nest's male. Sheppard (2018), for example, attributed some partial losses of eggs to neighboring male thrashers and had observed two separate marked males being chased away from different nests that were later found to have their eggs destroyed.

Since the gnatcatcher nestling being removed was apparently alive, this case does not appear to be one of removal of a dead nestling, which is not uncommon in passerines (Guigueno and Sealy 2012, 2017). Rasmussen et al. (2012) reported removal of a parasite nestling; it seems plausible that the parent gnatcatcher made a mistake and removed the wrong nestling. As noted above, the chick being removed is a gnatcatcher, not a cowbird; the latter has dark flanges, not bright yellow (S.G. Sealy, in litt.). We do not know if other gnatcatcher nestlings were present and removed prior to, or subsequent to, the observation of 25 May.

Removal of live nestlings is a rarely observed behavior in most passerines (Moreno 2012). We could find no records of gnatcatchers removing chicks or eggs, either theirs or a cowbird's. This is a single opportunistic observation of an unmarked bird. To draw any major conclusions or offer any significant discussion is beyond the scope of this report. Perhaps with modern digital technology now making remote video monitoring of nests more easily accomplished, future reports of this behavior may come to light and eventually allow some definitive conclusions.

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2021 Maryland May Count

Marilyn E. Veek

8714 Reichs Ford Road, Frederick, Maryland 21704
mveek@yahoo.com

The annual May Count was held on 8 May 2021. It was conducted in the standard way, since the latest wave of COVID-19 had waned and many people had been vaccinated. Results were submitted from 20 of Maryland's 23 counties (Table 1).

Calvert County would like to dedicate its count to the memory of Leslie Starr, a long-time contributor to their May and Fall counts; she is greatly missed.

Table 1. 2021 Maryland May Count: participating counties, county codes, and compilers.

County	Code	Compiler
Garrett	GA	Karl Schwalm
Allegany	AL	Mark Eanes
Washington	WA	Mark Abdy
Frederick	FR	David Smith
Montgomery	MO	Diane Ford
Carroll	CA	Scott Hodgdon
Howard	HO	Gregg Petersen
Baltimore	BA	Elizabeth Errickson
Prince George's	PG	Matthew Felperin
Anne Arundel	AA	Steve Sheffield
Charles	CH	Lynne Wheeler
Calvert	CT	Sherman Suter
St. Mary's	SM	J. Tyler Bell
Kent	KE	Walter Ellison
Talbot	TA	Ron Ketter
Dorchester	DO	Harry Armistead
Caroline	CN	Debby Bennett
Wicomico	WI	Ellen Lawler
Worcester	WO	Marcia Balestri
Somerset	SO	Pat Valdata

Weather was notable for snow and sleet in Garrett and Allegany Counties. After morning showers, a front moving through in the afternoon brought brief windy squalls with hail in Frederick, Howard, Prince George's and Anne Arundel Counties, and heavy rain in a few locations. Skies were mostly to partly cloudy,

with some clearing late in the day, especially on the Eastern Shore. Temperatures were mostly in the 40s and 50s °F, with a low of 33 °F (0.6 °C) in Garrett County and a high of 68 °F (20 °C) in Talbot County. Winds were fairly light, 5–20 mph (8–32 km/h) from the west and northwest except during squalls when gusts up to 40 mph (64 km/h) were reported.

A total of 404 counters in 277 parties reported 232 species and 109,766 total birds (Tables 2 and 3). Total numbers of birds were down from 2020, which was conducted on an individual basis, with submittal of eBird and paper reports centrally, and over two days, due to the COVID-19 pandemic.

Nocturnal flight calls were recorded in Frederick County for eight hours, tallying one Yellow-billed Cuckoo, two Black-billed Cuckoos, one Virginia Rail, one Barn Owl, one Veery, one Swainson's Thrush, two Wood Thrushes, one Grasshopper Sparrow, three White-throated Sparrows, two Ovenbirds, one Common Yellowthroat, and three Rose-breasted Grosbeaks.

Tables 4 and 5 show the species documented during the count. There were a number of notable sightings. One Snow Goose was spotted among a flock of Canada Geese at North Point State Park in Baltimore County (Figure 1). Two Trumpeter Swans were seen and heard in flight at Governor Bridge Natural Area in Prince George's County. One American Golden-Plover was seen in fields around Great Oak Pond (Kent County) with a group of Black-bellied Plovers. One Anhinga was reported from Montgomery County; an Anhinga had first been seen soaring over Hughes Hollow on 16 April, and continued being reported there through 18 May. A Rough-legged Hawk continued for several days over the Konterra Drive fields in Prince George's County. For the first time since 2017, Evening Grosbeaks were a significant presence, with a total of 47 being reported from Garrett, Allegany, Howard, and Prince George's Counties (Figure 2).

All owl numbers were higher than in previous years (Barn Owl 22, Eastern Screech-Owl 23, Great Horned Owl 36, and Barred Owl 111). Common Raven numbers continue to increase, with 83 spotted this year. Carolina Chickadee and Tufted Titmouse seem to be recovering from the exceptionally low numbers of 2019 (1,068 vs. 677 and 1,377 vs. 1035, respectively). However, Wild Turkey numbers seem to be decreasing (165 this year vs. a high of 307 in 2016).

Species missed included Surf and Black Scoters, Ruffed Grouse, White-rumped Sandpiper, Pectoral Sandpiper, and Mourning Warbler.

Once again, the cool, overcast weather led to lower count numbers, especially of migrants. Vireos, flycatchers, and Indigo Buntings were seen in significantly lower numbers than usual, while Ruby-crowned Kinglets, White-crowned Sparrows, and White-throated Sparrows were still present in much higher than usual numbers.

Table 2. 2021 Maryland May Count: Western and Central Maryland summary.

	GA	AL	WA	FR	MO	CA	HO	BA	PG	AA
Parties	15	8	11	10	4	17	61	29	16	14
Observers	27	11	15	30	4	27	66	38	29	22
Start Time	0525	0608	0430	0343		0400	0326	0600	0510	0535
Stop Time	2047	1959	1900	2000		2034	2045	2345	1930	2030
Driving										
hours	35.4	8	24.75	57.03		6.18	45.1	0.3	9.75	7
miles	217	45	211	540.3		20.29	397.9	4.7	94.94	67
Walking										
hours	67.35	25.3	17	53.67		44.54	177	79.8	91.6	70.1
miles	55.33	25.5	18.5	53.25		38.53	163.1	69.87	68.76	65.87
Other									bike	canoe
hours									1.33	2.5
miles									4	3.7
Owling										
hours	0.5		1.5	3.47		0.83	4.3	0.25		0.75
miles			9			1	2.4			0.35
Stationary										
hours	11.8	1.7	4	5.42		16.81	40.1	16.2	10.25	1.33
Total Species	147	118	219	140	110	128	138	141	143	145
Total Individuals	6,189	2,039	3,563	11,146	1,063	5,196	12,971	6,202	6,046	7,277

Table 3. 2021 Maryland May Count: Southern Maryland, Eastern Shore, and total summary.

	CH	CT	SM	KE	TA	DO	CN	WI	WO	SO	Totals
Parties	18	17	5	2	12	7	12	11	2	6	277
Observers	25	27	7	4	21	8	18	15	2	8	404
Start Time	0623	0400	0330	0554	0400	0400	0400	0505	0412	0716	
Stop Time	2100	2034	2115	2018	1730	2030	2200	1900	1950	1800	
Driving											
hours	37.2	6.18	22.75	9	8.1	40	22.75	11.5	11	13	374.99
miles	342.5	20.29	321	50	96.25	329	222	95.7	120	115.34	3,310.21
Walking											
hours	61.1	44.54	14	16	19.4	31	31	25.3	3	6.2	877.9
miles	50.5	38.53	12	10	10.8	17	21.25	17.1	3	4.8	743.69
Other							golf cart				
hours							1				
miles							1				
Owling											
hours	1.65	0.83	0.75		2	4.75	1.75	0.2	1.5		25.03
miles		1	10		31	22.6	15		5.5		97.85
Stationary											
hours	12.5	16.81	0.25		7.2		15	9		5.83	174.2
Total Species	123	153	142	112	111	146	126	106	138	106	232
Total Individuals	5,291	5,286	4,694	4,054	4,566	8,610	7,474	2,595	2,622	2,882	109,766

Figure 1. Snow Goose, *Anser caerulescens*, with Canada Geese, *Branta canadensis*. North Point State Park, Baltimore County, Maryland; 8 May 2021; photographed by Gale Janiszewski.

Figure 2. Evening Grosbeak, *Coccothraustes vespertinus*, male. Clarksville, Howard County, Maryland; 8 May 2021; photographed by Gregg Petersen.

Table 4. 2021 Maryland May Count: Western and Central Maryland observed species.

Species	GA	AL	WA	FR	MO	CA	HO	BA	PG	AA
Snow Goose								1		
Brant										
Canada Goose	220	58	163	255	20	299	685	201	273	158
Trumpeter Swan									2	
Wood Duck	52	43	30	26		3	17	15	69	67
Blue-winged Teal	3				3				4	
Gadwall					1					
Mallard	59	16	67	86	6	13	66	102	65	119
Mallard (domestic type)								2		
American Black Duck										
Mallard x American Black Duck								1		
Green-winged Teal				1						
Canvasback										
Ring-necked Duck	3									
duck sp.				4				3		
Greater Scaup										1
Bufflehead	16						1	3		
Hooded Merganser	2			2	4	5				
Common Merganser	8	9	2	5						
Red-breasted Merganser	5	2								
Ruddy Duck									2	
Northern Bobwhite										
Wild Turkey	37	3	8	6		5	6	1	27	12
Ring-necked Pheasant						1				
Pied-billed Grebe				2	1					
Rock Pigeon	22	16	24	108		65	45	33	15	22
Mourning Dove	78	31	60	264		129	288	95	147	95
Yellow-billed Cuckoo		7	2	4			1	1	2	1
Black-billed Cuckoo	1						2		1	
Common Nighthawk						1	1			
Chuck-will's-widow										
Eastern Whip-poor-will				1						
Chimney Swift	1	29	55	116		46	154	124	96	68
Ruby-throated Hummingbird	30	9	6	11	4	18	17	16	10	11
King Rail										1
Clapper Rail										
Clapper/King Rail										
Virginia Rail	5					1			1	1
Sora	1									
Common Gallinule								1		
American Coot	1								1	
Black-necked Stilt										
American Oystercatcher										
Black-bellied Plover										
American Golden-Plover										
Killdeer	14	10	5	24		7	17	2	29	3
Semipalmated Plover		1						1		
Ruddy Turnstone										

Species	GA	AL	WA	FR	MO	CA	HO	BA	PG	AA
Sanderling										
Dunlin										
Least Sandpiper	3			2			4	10		
Semipalmated Sandpiper										8
peep sp.										
Short-billed Dowitcher					1					
American Woodcock	5									
Wilson's Snipe					1		1		2	
Spotted Sandpiper	22	31	3	16	3	9	14	32	28	6
Solitary Sandpiper	5	2	3	23	1	7	44	24	11	17
sandpiper sp.						2				23
Lesser Yellowlegs	4			2		1	4	10	6	20
Willet										
Greater Yellowlegs	2		2	1	1			5	11	9
yellowlegs sp.										1
Bonaparte's Gull	2				1			3		
Laughing Gull									146	231
Ring-billed Gull	16	2						61	14	54
Herring Gull								26		54
Lesser Black-backed Gull										
Great Black-backed Gull										204
gull sp.										
Least Tern								45		21
Caspian Tern								102		14
Common Tern								7		8
Forster's Tern										2
Royal Tern										
tern sp.										
Black Skimmer										
Red-throated Loon	1									
Common Loon	1	2			1	1	2	1		1
Anhinga					1					
Double-Crested Cormorant	6	3	21	15	12	1	8	83	46	317
Brown Pelican										
American Bittern					1					
Least Bittern									1	
Great Blue Heron	1	2	5	20	6	9	49	28	41	57
Great Egret								2	3	6
Snowy Egret										6
Little Blue Heron										2
Tricolored Heron									1	1
Cattle Egret										39
Green Heron	2	6		13	4	6	16	6	10	7
Black-crowned Night-Heron				14	2					
Yellow-crowned Night-Heron				3	2			1		
Glossy Ibis									1	
Black Vulture	1	6	4	82	29	49	108	34	145	78
Turkey Vulture	66	52	66	169	37	115	194	86	123	154
Osprey	11	3	5	2		3	21	42	76	178
Northern Harrier	3		2	1	1		3		3	4
Sharp-shinned Hawk		1	2			1	1		1	1
Cooper's Hawk	4	1	1	9	1	2	8	1	5	4
Accipiter sp.										

Species	GA	AL	WA	FR	MO	CA	HO	BA	PG	AA
Bald Eagle	6	4	6	13	1	10	6	24	31	28
Red-shouldered Hawk	3		3	41	8	13	77	19	21	17
Broad-winged Hawk	8	2	2					1		3
Red-tailed Hawk	9	3	8	34	4	22	23	19	30	15
Rough-legged Hawk									1	
Buteo sp.						2			7	
hawk sp.								1	1	
Barn Owl				12						
Eastern Screech-Owl		1		2		1	1			1
Great Horned Owl			3		4		5			
Barred Owl			4	7	23	7	10	9	7	8
Belted Kingfisher	8	1	2	19		9	14	7	13	2
Red-headed Woodpecker	12		1	18		9	5	1	1	
Red-bellied Woodpecker	43	31	50	141	7	61	244	77	76	107
Yellow-bellied Sapsucker	5					1			1	1
Downy Woodpecker	40	13	15	70	9	30	102	51	29	26
Hairy Woodpecker	21	2	6	11	1	11	20	7	6	12
Northern Flicker	31	6	9	17	2	16	39	37	13	6
Pileated Woodpecker	13	12	16	34	4	10	36	17	31	12
woodpecker sp.		1						1		
American Kestrel	1	4		10					7	3
Merlin	2					1				2
Peregrine Falcon			1							
Great Crested Flycatcher	1	7	25	97	31	30	93	47	56	55
Eastern Kingbird	10	4	13	61	4	43	72	45	46	34
Eastern Wood-Pewee	2	4	13	22	5	9	26	14	17	16
Acadian Flycatcher		1	17	14	4	8	16	7	13	10
Willow Flycatcher				2						
Least Flycatcher	1									
Empidonax sp.								1	3	2
Eastern Phoebe	46	13	21	42	5	23	71	20	39	9
White-eyed Vireo	5	4	1	8		5	21	6	36	32
Yellow-throated Vireo	6	2	4	7		4	14	3	8	4
Blue-headed Vireo	47	1		1		1	7	7		6
Warbling Vireo		11	36	47		4	12	16	8	1
Red-eyed Vireo	25	55	101	147		40	281	85	137	102
Blue Jay	154	26	106	219	20	110	461	176	93	213
American Crow	169	35	93	129	20	127	293	107	116	157
Fish Crow		2	12	52	5	31	95	26	60	62
crow sp.				27		30	137	12	14	
Common Raven	29	12	9	10	3	3	10	2	1	1
Carolina Chickadee			50	108	15	41	116	119	63	91
Black-capped Chickadee	167	9	10							
chickadee sp.		2								
Tufted Titmouse	78	30	30	77	7	33	188	91	90	114
Horned Lark	2		5	15	1	20	10	2		
Bank Swallow		6		1		67	5	7		
Tree Swallow	209	29	95	176		128	231	76	126	68
N. Rough-winged Swallow	30	20	63	128	4	41	104	36	30	12
Purple Martin			6	34	8	17	112	19	7	8
Barn Swallow	510	111	108	413	33	148	367	159	208	182
Cliff Swallow	26	10	73	8	2	8	34	7		
swallow sp.	35							32		

Species	GA	AL	WA	FR	MO	CA	HO	BA	PG	AA
Ruby-crowned Kinglet	42	6	2	18		4	8	9	1	2
Golden-crowned Kinglet	12									
Cedar Waxwing		2	13		20	50	161	22	51	15
Red-breasted Nuthatch	20	2				2	2	3		
White-breasted Nuthatch	47	19	7	29	2	29	65	19	17	15
Brown-headed Nuthatch										
Brown Creeper	7								2	
Blue-gray Gnatcatcher	36	26	33	91	17	62	125	102	82	89
House Wren	39	13	23	123	8	41	112	47	3	10
Winter Wren	3									
Sedge Wren							1			
Marsh Wren								5	5	10
Carolina Wren	15	40	63	194	25	68	260	100	165	136
Gray Catbird	148	66	96	341	28	244	373	144	68	64
Brown Thrasher	23	11	18	49	7	7	25	4	14	20
Northern Mockingbird	1	11	34	116	9	59	137	33	58	67
European Starling	216	59	248	1124	21	543	457	302	184	215
Eastern Bluebird	32	24	66	136	12	80	227	43	60	91
Veery	12	1	1	5		11	15	10	10	9
Gray-cheeked Thrush										
Swainson's Thrush	5	1		4	4	1	14	9	12	
Hermit Thrush	13	2							1	
Wood Thrush	35	6	28	124	3	51	149	29	38	20
American Robin	404	98	156	644	20	198	434	278	115	196
House Sparrow	45	41	74	249	23	100	282	150	51	93
American Pipit										14
Evening Grosbeak	30	15					1		1	
House Finch	26	22	34	129	2	67	408	71	18	75
Purple Finch	6	3	4	5		13	12	1	4	
Pine Siskin	15		15	1		2	20	2		32
American Goldfinch	253	77	107	285	25	115	346	91	128	139
Grasshopper Sparrow	1		6	17	5	2	13	2	9	8
Chipping Sparrow	171	36	66	221	12	96	278	80	85	115
Field Sparrow	49	16	27	92	8	19	36	19	7	8
Dark-eyed Junco	11									
White-crowned Sparrow	5	2	6	11		4	6		2	28
White-throated Sparrow	26	17	36	162	26	42	360	174	126	72
Vesper Sparrow	1			1						
Seaside Sparrow										
Saltmarsh Sparrow										
Savannah Sparrow	2		5	6	1		40	8	58	62
Song Sparrow	179	65	42	220	17	70	160	48	31	23
Lincoln's Sparrow										
Swamp Sparrow	18			5	1	8	4	27	7	6
Eastern Towhee	201	37	54	105	15	24	196	39	36	41
sparrow sp.		2						3		
Yellow-breasted Chat			9	1	1		4	2	3	3
Bobolink	72	9	6	257	1	70	34	7	47	31
Eastern Meadowlark	35	9	10	54		8	13	3	29	14
Orchard Oriole	7	10	3	20	4	11	31	36	27	10
Baltimore Oriole	77	15	41	89	11	26	100	59	20	3
Red-winged Blackbird	392	95	50	721	32	310	562	276	425	632
Brown-headed Cowbird	39	17	52	175	14	70	163	87	133	60

Species	GA	AL	WA	FR	MO	CA	HO	BA	PG	AA
Rusty Blackbird					1			4	2	1
Common Grackle	164	62	84	439	44	127	106	120	124	175
Boat-tailed Grackle										
blackbird sp.										
Ovenbird	48	6	16	73	11	24	112	40	48	41
Worm-eating Warbler		3	12	5		5	5			4
Louisiana Waterthrush	8	7	19	21	3	2	24	5	7	1
Northern Waterthrush	4	2		4	5	3	12	11	4	4
Golden-winged Warbler	3					1				
Blue-winged Warbler	2		2	1			2	4		
Black-and-white Warbler	18	2	4	18	6	10	59	55	18	18
Prothonotary Warbler	1		7	8	5		1	1	10	4
Tennessee Warbler	1			1			2	1	1	
Orange-crowned Warbler						1				
Nashville Warbler	2	1			1		1	1		1
Kentucky Warbler	3	1		3	1	1	3		3	
Common Yellowthroat	147	11	13	78	13	42	185	120	112	123
Hooded Warbler	13	1	5	10	1	1	9		1	7
American Redstart	22	16	2	35	9	13	74	54	44	28
Cape May Warbler	3		2	13	1	3	9	6	6	
Cerulean Warbler	5		17	6		1			1	
Northern Parula	50	12	11	66	21	24	143	72	82	48
Magnolia Warbler	15	5	4	6		6	13	31	6	5
Bay-breasted Warbler	1			2		2	5	2		1
Blackburnian Warbler	8	1		3			4	8	3	1
Yellow Warbler	48	23	3	46	5	23	50	30	13	9
Chestnut-sided Warbler	44	5	8	10	4	5	14	23	13	2
Blackpoll Warbler	5	1		8	7		18	6	6	5
Black-throated Blue Warbler	10	4	3	33	8	19	92	63	18	18
Palm Warbler	7	2		5			5	1		1
Pine Warbler		4	6	3	1	5	4	3	6	17
Yellow-rumped Warbler	53	13	29	118	90	65	232	156	84	106
Yellow-throated Warbler	6	10	6	2		1		3	4	7
Prairie Warbler	1		17	8	1	1	14	10	2	4
Black-throated Green Warbler	46	6	4	13		7	33	15	4	2
Canada Warbler	1			2	1	5	4	2	1	2
Wilson's Warbler	2			2			1	3	1	
warbler sp.		2						1	4	
Summer Tanager					1				7	4
Scarlet Tanager	29	23	9	33	2	14	51	23	42	16
tanager sp.										
Northern Cardinal	119	82	215	600	44	261	785	342	241	593
Rose-breasted Grosbeak	46	5	9	10	7	9	30	5	6	6
Blue Grosbeak			2	1	1	1	10	8	29	16
Indigo Bunting	16	35	66	75	20	34	90	25	93	71
Dickcissel					1				1	
passerine sp.									2	

Table 5. 2021 Maryland May Count: Southern Maryland, Eastern Shore, and total observed species.

Species	CH	CT	SM	KE	TA	DO	CN	WI	WO	SO	Totals
Snow Goose									1		2
Brant									1		1
Canada Goose	192	57	139	38	52	150	154	131	114	78	3437
Trumpeter Swan											2
Wood Duck	86	12	13	9	2	24	33	7	1	1	510
Blue-winged Teal			11			2					23
Gadwall						1					2
Mallard	57	34	33	46	82	128	42	31	31	18	1101
Mallard (domestic type)		2	2								6
American Black Duck			2			35				39	76
Mallard x American Black Duck											1
Green-winged Teal						4					5
Canvasback		1				1					2
Ring-necked Duck	1					1			1		6
duck sp.			4					1			12
Greater Scaup											1
Bufflehead		2		1		1			1		25
Hooded Merganser											13
Common Merganser											24
Red-breasted Merganser	2										9
Ruddy Duck		4		13		1			3		23
Northern Bobwhite			1			4	3				8
Wild Turkey	10	2	8		8	3	19	4	6		165
Ring-necked Pheasant											1
Pied-billed Grebe											3
Rock Pigeon	1	2	8	3	1	6	46		3	40	460
Mourning Dove	129	111	77	49	87	117	229	68	10	40	2104
Yellow-billed Cuckoo	7	1	9	1	1	2	5	13	9	1	67
Black-billed Cuckoo											4
Common Nighthawk	5	2	2						1		12
Chuck-will's-widow			8			9	1	1	6		25
Eastern Whip-poor-will			2				4		2		9
Chimney Swift	85	50	27	5	2	7	170	5	6	6	1052
Ruby-throated Hummingbird	20	16	16	7	11	13		7	6	10	238
King Rail						7			1		9
Clapper Rail		3	2			11	29	5	2	6	58
Clapper/King Rail		1									1
Virginia Rail		3	1	4	12	20			1	3	52
Sora		5			1						7
Common Gallinule						5					6
American Coot											2
Black-necked Stilt			2			5			2	10	19
American Oystercatcher						3			6		9
Black-bellied Plover				68		139			176	26	409
American Golden-Plover				1							1
Killdeer	15	12	18	3	9	18	27	4	6	9	232
Semipalmated Plover		1	8	16	10	82			22		141
Ruddy Turnstone									5		5

Species	CH	CT	SM	KE	TA	DO	CN	WI	WO	SO	Totals
Sanderling						2			18		20
Dunlin						249			120	511	880
Least Sandpiper		4	11	15	29	209	15		48	8	358
Semipalmated Sandpiper			12			33				62	115
peep sp.			12	20							32
Short-billed Dowitcher						1			37	1	40
American Woodcock			1				2				8
Wilson's Snipe					1		5				10
Spotted Sandpiper	4	8	14	4	5	4	1		4		208
Solitary Sandpiper	4	16	8	6	2	3	9		1		186
sandpiper sp.											25
Lesser Yellowlegs		1	6	6	7	92	18	1	105	67	350
Willet					1	16			6	19	42
Greater Yellowlegs	5		12	2	5	42	6	4	51	78	236
yellowlegs sp.											1
Bonaparte's Gull				8			3		6		23
Laughing Gull	8	22	41	12	1979	1713	1405	343	175	490	6565
Ring-billed Gull	10	66	65	1375	18	15	80		50		1826
Herring Gull	10	19	65		3	19	1		101	25	323
Lesser Black-backed Gull									1		1
Great Black-backed Gull		7	3					1	18		233
gull sp.	8		6				3				17
Least Tern		1		17		16			5		105
Caspian Tern	3	1		7		2			2		131
Common Tern									25	2	42
Forster's Tern	18	7	15	16	20	47	7		16	2	150
Royal Tern						5			30		35
tern sp.	4										4
Black Skimmer									12		12
Red-throated Loon											1
Common Loon		3	3		1	1	1		1		19
Anhinga											1
Double-Crested Cormorant	180	50	401	68	39	140	37	43	209	18	1697
Brown Pelican			47			3			8	1	59
American Bittern											1
Least Bittern		1				1					3
Great Blue Heron	39	11	63	21	30	62	47	35	5	10	541
Great Egret		1	2		1	30	3	2	4	20	74
Snowy Egret		19	2		7	9		1	19	12	75
Little Blue Heron											2
Tricolored Heron									1		3
Cattle Egret					23						62
Green Heron	7	10	7		6	6	2	4	2	2	116
Black-crowned Night-Heron		1		1		1					19
Yellow-crowned Night-Heron											6
Glossy Ibis			1		5	29			42		78
Black Vulture	151	41	27	14	15	14	52	7	3	9	869
Turkey Vulture	114	100	63	93	51	161	180	89	64	49	2026
Osprey	131	77	106	55	50	118	39	15	3	12	947
Northern Harrier			1			1				1	20
Sharp-shinned Hawk											7
Cooper's Hawk	1	1	1	2			3				44
Accipiter sp.								1			1

Species	CH	CT	SM	KE	TA	DO	CN	WI	WO	SO	Totals
Bald Eagle	61	15	24	22	21	88	38	11	6	14	429
Red-shouldered Hawk	10	8	7			1	14	2	1	1	246
Broad-winged Hawk						1					17
Red-tailed Hawk	11	9	5	3	6	10	16	2	1	1	231
Rough-legged Hawk											1
Buteo sp.											9
hawk sp.								1			3
Barn Owl	7					3					22
Eastern Screech-Owl	1	1	2		2	6	4	1			23
Great Horned Owl	3	3	5		2	4	7				36
Barred Owl	3	6	4	6			12	1	4		111
Belted Kingfisher	5	12	1				3	2	1	1	100
Red-headed Woodpecker	6		9			19		1	1	7	90
Red-bellied Woodpecker	65	69	37	19	19	36	52	24	6	5	1169
Yellow-bellied Sapsucker											8
Downy Woodpecker	26	34	15	15	10	13	26	16	2	3	545
Hairy Woodpecker	3	8	6	5	5	3	3	1	1		132
Northern Flicker	6	9	8	3	4	13	9	3		1	232
Pileated Woodpecker	18	19	9	9	7	15	32	9	1	2	306
woodpecker sp.											2
American Kestrel		3	1				3	1			33
Merlin		1							1		7
Peregrine Falcon											1
Great Crested Flycatcher	48	59	63	29	26	118	75	47	25	20	952
Eastern Kingbird	44	35	30	16	15	32	21	10	2	9	546
Eastern Wood-Pewee	22	23	42	5	5	15	15	1	10	5	271
Acadian Flycatcher	28	74	42	5	2	1	12	5	15	1	275
Willow Flycatcher											2
Least Flycatcher											1
Empidonax sp.											5
Eastern Phoebe	43	9	5	2		3	20	3	2		376
White-eyed Vireo	33	29	9	9		37	23	10	24	10	302
Yellow-throated Vireo	8	12	4				1	1	9		87
Blue-headed Vireo		4	2			1					77
Warbling Vireo		1		5			1				142
Red-eyed Vireo	106	195	42	35	6	50	55	40	15	6	1523
Blue Jay	63	99	53	20	29	61	62	33	2	10	2010
American Crow	132	150	79	18	23	159	112	56	34	45	2054
Fish Crow	25	43	48	25	30	20	18	5	4	9	572
crow sp.	3		14				1	8		4	250
Common Raven	2	1									83
Carolina Chickadee	52	93	54	28	22	62	74	49	16	15	1068
Black-capped Chickadee											186
chickadee sp.											2
Tufted Titmouse	120	169	59	25	32	87	61	57	20	9	1377
Horned Lark			1	13	10	18	27	1	3		128
Bank Swallow		6	5	5		1			48		151
Tree Swallow	105	27	29	84	51	259	96	12	59	47	1907
N. Rough-winged Swallow	9	38		1	1		2				519
Purple Martin	100	26	79	22	33	106	125	25	12	24	763
Barn Swallow	155	150	109	88	90	192	238	50		13	3324
Cliff Swallow					1		3				172
swallow sp.											67

Species	CH	CT	SM	KE	TA	DO	CN	WI	WO	SO	Totals
Ruby-crowned Kinglet		5	1	1					1		100
Golden-crowned Kinglet											12
Cedar Waxwing	5	37	28	20	10		22				456
Red-breasted Nuthatch			1		1		1			1	33
White-breasted Nuthatch	13	29	5	2	5	2	9	3	1	1	319
Brown-headed Nuthatch		6	22	2		43		2	5	3	83
Brown Creeper											9
Blue-gray Gnatcatcher	50	84	61	19	1	23	23	15	43	1	983
House Wren	2	3	5	2	4	22	5	10	2	10	484
Winter Wren											3
Sedge Wren		1									2
Marsh Wren		7				12		5		8	52
Carolina Wren	130	175	95	64	58	147	89	88	32	41	1985
Gray Catbird	29	88	36	36	4	41	52	22	11	12	1903
Brown Thrasher	28	30	27	21	15	19	31	7	7	3	366
Northern Mockingbird	98	48	50	23	46	63	98	31	6	26	1014
European Starling	226	174	78	274	106	401	694	180	80	164	5746
Eastern Bluebird	154	110	77	18	51	61	100	17	1	24	1384
Veery	1	20	1	2	2	2	1				103
Gray-cheeked Thrush		2					1				3
Swainson's Thrush	1	4	1								56
Hermit Thrush			4					1			21
Wood Thrush	51	43	46	13	15	6	30	12	10	4	713
American Robin	122	68	99	116	147	205	320	126	22	85	3853
House Sparrow	39	64	53	46	16	18	168	7	24	26	1569
American Pipit		2									16
Evening Grosbeak											47
House Finch	49	102	48	17	31	8	43	16	8	4	1178
Purple Finch	2	2									52
Pine Siskin	6	12			2		4				111
American Goldfinch	78	176	44	41	40	32	108	25	16	5	2131
Grasshopper Sparrow	4	15	26	1	5	6	19	2	3		144
Chipping Sparrow	159	111	107	44	74	119	144	34	24	11	1987
Field Sparrow	8	15	20	18	4	11	22	7	5	1	392
Dark-eyed Junco											11
White-crowned Sparrow		2									66
White-throated Sparrow	47	46	5	25	20	1	27	19	8	5	1244
Vesper Sparrow							2				4
Seaside Sparrow		12				14		3	5	70	104
Saltmarsh Sparrow		1								11	12
Savannah Sparrow		3	4		6	9	11	1	1	4	221
Song Sparrow	4	29	15	2	1	7	7	5	1	4	930
Lincoln's Sparrow		1									1
Swamp Sparrow	1	29	1		1			1		1	110
Eastern Towhee	13	25	13	8	3	22	11	1	4	11	859
sparrow sp.											5
Yellow-breasted Chat	5	6	12	4	1	7	12		1		71
Bobolink	3	5	11				10	4			567
Eastern Meadowlark	2	7	21	1	1	17	4	5	1	3	237
Orchard Oriole	23	29	28	15	7	22	20	9	3	12	327
Baltimore Oriole	7	4	5	2	3	1	9				472
Red-winged Blackbird	264	273	158	166	316	647	387	214	42	181	6143
Brown-headed Cowbird	150	111	94	59	20	110	145	28	24	8	1559

Species	CH	CT	SM	KE	TA	DO	CN	WI	WO	SO	Totals
Rusty Blackbird											8
Common Grackle	241	170	289	176	300	666	359	117	46	71	3880
Boat-tailed Grackle						6		2	2	14	24
blackbird sp.							33				33
Ovenbird	52	52	55	3	8	31	30	26	38	18	732
Worm-eating Warbler	3	19	14		6	13	3	6	20	1	119
Louisiana Waterthrush	17	13	7	3	1		11	4	11	1	165
Northern Waterthrush		7	3	1			5		1		66
Golden-winged Warbler											4
Blue-winged Warbler						1					12
Black-and-white Warbler	9	25	13	6	3	19	14		13		310
Prothonotary Warbler	4	3				8	18	15	36	2	123
Tennessee Warbler											6
Orange-crowned Warbler											1
Nashville Warbler		1									8
Kentucky Warbler	1	6	10			1	3		5	2	43
Common Yellowthroat	56	120	68	24	19	127	37	15	9	26	1345
Hooded Warbler	8	28	10								94
American Redstart	17	24	31	3	1	9	6	3	10		401
Cape May Warbler	2										45
Cerulean Warbler											30
Northern Parula	61	86	46	11	8	9	14	3	6	1	774
Magnolia Warbler	4	6	7	2			2				112
Bay-breasted Warbler	1	1					1				16
Blackburnian Warbler	1			1							30
Yellow Warbler	6	17	13	3	3	5	2	1			300
Chestnut-sided Warbler	1	4	2	1							136
Blackpoll Warbler	4	6	14	2	2			2	3		89
Black-throated Blue Warbler	3	15	22	3	1	1	1		2	1	317
Palm Warbler		3									24
Pine Warbler	20	12	42	8	11	62	21	18	15	10	268
Yellow-rumped Warbler	26	14	4	38	21	23	30	8		1	1111
Yellow-throated Warbler	15	23	16			1	3	2	10	1	110
Prairie Warbler	9	3	19	1		8	7	6	9	5	125
Black-throated Green Warbler	1	6	9	2		1		1			150
Canada Warbler	1	1									20
Wilson's Warbler		1	2								12
warbler sp.											7
Summer Tanager	15	27	30		5	29	20	10	14	1	163
Scarlet Tanager	34	27	16	15	7	2	10	9	3		365
tanager sp.			1					1			2
Northern Cardinal	202	245	205	129	92	133	192	98	17	32	4627
Rose-breasted Grosbeak		6	5		1	1	1	1			148
Blue Grosbeak	10	18	47	6	11	40	43	22	12	4	281
Indigo Bunting	63	53	102	31	22	39	37	14	10	3	899
Dickcissel											2
passerine sp.											2

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2021 Maryland Fall Count

Charles R. Stirrat

13318 Hunt Ridge, Ellicott City, Maryland 21042-1155
Stirrbird@outlook.com

The annual Maryland Fall Count is held on the third weekend in September with the choice of Saturday or Sunday at the discretion of the county and/or compiler. In 2021, data from 23 of Maryland's 23 counties were compiled. Seven counties conducted organized counts on 18 September, four counted on 19 September, and the author compiled eBird data for twelve more counties that did not organize counts but had eBird coverage (Table 1). Having results for 11 organized counties is average participation for Fall Count. For several counties, this seasonal count has been a long-held tradition, with this year being the 31st count for Allegany, 28th for Howard, and 25th for Dorchester.

Table 1. 2021 Maryland Fall Count: participating counties, county codes, survey dates, and compilers.

County	Code	Survey Date	Compiler
Garrett	GA	18 September 2021	eBird Tabulation (Stirrat)
Allegany	AL	19 September 2021	Chuck Hager
Washington	WA	18 September 2021	Doris Berger
Frederick	FR	18 September 2021	eBird Tabulation (Stirrat)
Montgomery	MO	18 September 2021	eBird Tabulation (Stirrat)
Carroll	CA	18 September 2021	Scott Hodgdon
Howard	HO	18 September 2021	Mike McClure, Chuck Stirrat
Baltimore	BA	18 September 2021	eBird Tabulation (Stirrat)
Harford	HA	19 September 2021	eBird Tabulation (Stirrat)
Cecil	CE	19 September 2021	eBird Tabulation (Stirrat)
Prince George's	PG	18September 2021	Matt Felperin
Anne Arundel	AA	18September 2021	eBird Tabulation (Stirrat)
Charles	CH	19 September 2021	eBird Tabulation (Stirrat)
Calvert	CT	19 September 2021	Sherman Suter
St. Mary's	SM	18 September 2021	eBird Tabulation (Stirrat)
Kent	KE	19 September 2021	eBird Tabulation (Stirrat)
Queen Anne's	QA	19 September 2021	eBird Tabulation (Stirrat)
Talbot	TA	19 September 2021	Ron Ketter
Dorchester	DO	18 September 2021	Harry Armistead
Caroline	CN	18 September 2021	Debby Bennett
Wicomico	WI	18 September 2021	Paul Bystrak
Worcester	WO	19 September 2021	eBird Tabulation (Stirrat)
Somerset	SO	19 September 2021	Pat Valdata

Expanding the compilation to use eBird data for the remaining counties is an experiment. The selection of date for the eBird counties was made by choosing the day with the most participants and locations. Where multiple parties visited the same location, only the highest count for a species was used to avoid double counting.

This was the fifth seasonal count conducted since the onset of the COVID-19 pandemic. Unlike earlier counts this count was conducted with fewer restrictions and was more consistent with historical norms. Party sizes were generally smaller, participants adhered to social distancing and if any, virtual tallies were the norm.

The weather varied over the extent of the state and from Saturday to Sunday, but the difference was not dramatic. Temperatures were in the mid-60s °F pre-dawn. Mid-morning temperatures were in the mid-70s °F. Afternoon temperatures were in the mid- to high 80s °F both days. Winds for counts reporting weather were light. Most reports of cloud coverage reported relatively clear conditions, except for fog and significant cloud coverage in Carroll and Howard on Saturday. There were no reports of precipitation either day. A couple of pleasant fall days. One weakness of the use of eBird inputs is that very few eBird reports comment on weather conditions.

A total of 467 field observers in 313 parties turned up 214 species and 86,101 individual birds (Tables 2 and 3) compared to averages of 195.5 species and 65,291.1 individuals for the prior eight counts. They spent a total of 1,006.7 hours and covered 619.3 miles on foot and spent 160.8 hours stationary. Birders spent 205.2 hours and 1,887.4 miles birding by car. Two parties traveling by other modes (bicycle) covered 9.2 miles in 4.3 hours. Two parties traveled by boat (4.7 hours, 47.0 miles), one an extended sail where birding was not the primary purpose. Participants in 13 counties reported spending 32.7 hours traveling 90.4 miles while owling. Feeder watchers spent 41.0 hours. This marked at least ten years in a row a Youth MOS group has participated in Dorchester County. This year's effort (party-hours) is approximately twice the average of the prior 8 counts and a new high. Comparisons between this count and prior count results need to recognize that by using the eBird data for 12 counties increased the number of counties included from an average of 12 over the past 8 years to 23 counties this year.

Tables 4 and 5 show the species observed during the count. There were eight write-in species reported. Three of these were reported for the first time in nine counts. There were 6 Trumpeter Swans reported (3 in Harford and 3 in Anne Arundel). There were 2 Ring-necked Pheasants found in Dorchester. A juvenile Wood Stork that had been continuing in Montgomery was probably the most

unusual species and a first-time report for the Maryland Fall Count (Figures 1 and 2). Additional write-ins were 1 American Avocet in Kent, 4 Sandwich Terns in Worcester, 6 White Ibis (1 in Talbot and 5 in Worcester), 1 Clay-colored Sparrow in Worcester, and 1 Orchard Oriole in Dorchester.

Table 2. 2021 Maryland Fall Count: Western counties summary.

	GA	AL	WA	FR	MO	CA	HO	BA	HA	CE	PG	AA
Total Species	94	79	71	71	109	111	112	96	95	99	111	83
Total Birds	1,202	1,722	1,823	892	4,415	6,213	11,640	3,598	2,971	781	8,875	2,332
Start Time	0558	0600	0800	0745	0430	0600	0600	0717	0533	0605	0500	0632
Stop Time	1941	1930	1300	1950	2003	2200	2000	1959	1900	1200	1700	1935
Parties	8	6	6	15	56	13	45	22	13	2	16	28
Individual People	11	7	9	20	86	22	54	43	17	13	28	34
Hours Driving		7.5	16.6		0.1	46.3	42.1	0.9			9.9	0.5
Miles Driving		62.0	256.0			254.2	382.7	30.0			125.3	8.9
Hours Walking	19.6	11.5	11.1	26.8	93.1	319.2	148.2	33.4	16.5	3.0	60.8	21.4
Miles Walking	16.1	13.8	8.9	22.3	87.0	63.8	133.6	29.2	15.0	3.0	53.4	24.1
Hours Boat									1.7			3.0
Miles Boat									2.0			45.0
Hours Other							1.5				0.8	
Miles Other							5.2				3.0	
Stationary Hours	0.3	16.5		4.5	14.7	0.3	10.8	12.7	8.4	12.4	10.0	6.8
Feeder Hours			0.3	0.3	5.7	1.1	5.6	0.9	0.2		2.5	0.3
Hours Owling		1.0			2.3	2.2	3.4		0.9		1.5	0.2
Miles Owling		0.0			7.2	1.5	10.4				0.9	

Table 3. 2021 Maryland Fall Count: Southern Maryland, Eastern Shore, and total summary.

	CH	CT	SM	KE	QA	TA	DO	CN	WI	WO	SO	Total
Total Species	39	145	80	134	87	115	149	100	59	87	78	214
Total Birds	156	9,919	629	3,113	1,254	4,130	10,085	7,169	396	895	1,891	86,101
Start Time	1250	0539	0647	0602	0648	0255	0430	0430	0800	0617	0700	0255
Stop Time	1842	1941	1928	2014	1833	1900	1950	2000	1900	1901	1900	2200
Parties	1	15	5	10	12	9	10	8	5	5	3	313
Individual People	1	21	5	12	17	17	20	10	8	6	6	467
Hours Driving		5.7		1.0	0.4	8.9	43.0	14.5		0.2	7.6	205.2
Miles Driving		15.1		9.0	8.1	51.8	389.0	225.0		3.6	66.7	1,887.4
Hours Walking	5.4	52.4	5.0	18.9	11.8	54.2	59.0	23.5	2.0	7.6	2.3	1,006.7
Miles Walking	4.8	37.4	7.0	24.9	11.4	25.2	20.0	8.5	1.0	7.4	1.5	619.3
Hours Boat												4.7
Miles Boat												47.0
Hours Other								2.0				4.3
Miles Other								1.0				9.2
Stationary Hours		12.5	0.8	3.7	4.7	9.0		8.0	19.5	1.9	3.3	160.8
Feeder Hours		2.0	3.4	0.2		7.0	4.0	6.0			1.5	41.0
Hours Owling		1.5		1.1		4.6	12.0	1.5			0.5	32.7
Miles Owling		1.0		0.5		10.9	48.0	9.0			1.0	90.4

Figures 1 and 2. Juvenile Wood Stork, *Mycteria americana*. Chesapeake and Ohio Canal – Pennyfield Lock, Montgomery County, Maryland; 18 September 2021; photographed by Paul Budde.

Single individual species found during the count statewide, excluding those mentioned above, included Common Gallinule (Howard), Western Sandpiper (Dorchester), American White Pelican (Dorchester), Least Bittern (Kent), Willow Flycatcher (Carroll), Lincoln's Sparrow (Frederick), Prothonotary Warbler (Caroline), Mourning Warbler (Cecil), and Dickcissel (Baltimore), (Table 4 and 5). The Least Bittern was observed for the first time in 9 counts. The only other first-time report was 5 Chuck-will's-widows in Talbot.

Compilers and the author noted the following highlights. In total there were 34 species with new highs more than 50% above the high in the eight prior counts. This is due to adding the eBird counts from twelve counties. Several of the new highs were in species found more frequently near the ocean as this was the first-time data from Worcester was included.

In contrast no species exhibited misses or significant new lows.

There were 32 species that were observed in only one county. Six of these were observed in Kent County, with the rest being five in Dorchester and Worcester; two in Carroll, Cecil, Garrett, and Montgomery; and one in Baltimore, Caroline, Frederick, Howard, Somerset, Talbot, Washington, and Wicomico. Fourteen species were reported in all 23 counties.

The Cromwell Valley Hawk Watch only had 237 Broad-winged Hawks on Saturday, 18 September (day of the count), but on Sunday, 19 September, they had a conservative count of 3,332 Broad-wingeds. Northern Bobwhite have become very scarce, but Dorchester and Caroline have traditionally had a few, but this year Harry Armistead expressed his disappointment in a miss in Dorchester with **bold** and **ALL CAPITALS** in his report. Caroline (3) and Queen Anne's (1) sightings precluded a complete miss of Northern Bobwhite for the count.

Thank you to all participants and especially the compilers. I urge more participants to enjoy the experience and join in one of the 2022 counts that will be held on 17 or 18 September. I hope additional counties will have volunteers who choose to organize a count in the future and reverse the trend of decreasing interest and participation in organized seasonal counts. The use of eBird reports offers an opportunity for someone familiar with the birding community in a county to volunteer to not formally organize a count but after the fact compile the results bringing greater insight into the process than the author is able to do. Anyone interested in exploring this opportunity is encouraged to contact the author.

Table 4. 2021 Maryland Fall Count: Western Maryland observed species.

Species	GA	AL	WA	FR	MO	CA	HO	BA	HA	CE	PG	AA
Canada Goose	47	32	44	109	192	255	844	132	21	12	659	72
Mute Swan										3		
Trumpeter Swan									3			3
Wood Duck	76	2	4		6	18	30		1		74	9
Blue-winged Teal												
Northern Shoveler												
Gadwall												
Mallard	2	16	3	51	93	60	79	23			103	88
American Black Duck											1	
Northern Pintail												
Green-winged Teal					13						9	
Common Merganser			6									
Ruddy Duck						4						
Northern Bobwhite												
Wild Turkey	7	55	23	1	1	6	32				31	4
Ring-necked Pheasant												
Pied-billed Grebe	1					5	2					
Rock Pigeon	31	150	94	22	12	140	203	8	5	1	206	6
Mourning Dove	92	64	59	18	81	266	764	110	41	3	2,014	55
Yellow-billed Cuckoo	2		22	1	8	10	7	3	1	1	6	1
Yellow-bill/Black-bill Cuckoo												
Common Nighthawk	8				8		16	3		1		
Chuck-will's-widow												
Chimney Swift	2	73	5	9	50	49	60	1,462	56	31	157	121
Ruby-throated Hummingbird	3	43	10	7	37	33	46	8	16	4	11	8
Clapper Rail												
Clapper/King Rail												
Virginia Rail												
Sora												
Common Gallinule							1					
American Avocet												
American Oystercatcher												
Black-bellied Plover											1	
Killdeer	25	15			10	20	7				93	
Semipalmated Plover												
Ruddy Turnstone												
Stilt Sandpiper												
Sanderling												
Least Sandpiper					6							
White-rumped Sandpiper												
Pectoral Sandpiper					2							
Semipalmated Sandpiper											1	
Western Sandpiper												
Short-billed Dowitcher												
American Woodcock	2	1										
Wilson's Snipe												
Spotted Sandpiper		2			1	1	4				2	3
Solitary Sandpiper	1			1	2							
Lesser Yellowlegs					5			1	1		1	
Willet												

Species	GA	AL	WA	FR	MO	CA	HO	BA	HA	CE	PG	AA
Greater Yellowlegs					3		1					
Laughing Gull								6		95	331	178
Ring-billed Gull								8	15	12	145	29
Herring Gull									2			78
Lesser Black-backed Gull												
Great Black-backed Gull										5		83
unidentified gull						1						36
Caspian Tern								2	1	5		3
Common Tern												
Forster's Tern									5	6	9	43
Common/Forster's Tern												
Royal Tern												35
Sandwich Tern												
Black Skimmer												
Wood Stork					1							
Double-crested Cormorant	2		22		8		12	33	6	15	6	151
American White Pelican												
Brown Pelican												
Least Bittern												
Great Blue Heron	1	2	8	2	18	14	39	5	15	2	20	10
Great Egret	2				3	1	2	1	1	18	12	5
Snowy Egret												6
Little Blue Heron								1				
Tricolored Heron												
Cattle Egret												
Green Heron	2				3	4	29	1			7	
Black-crowned Night-Heron				1	2			2				2
Yellow-crowned Night-Heron					3							
White Ibis												
Glossy Ibis												2
Black Vulture	2	7	14	7	25	109	70	17	36	2	120	6
Turkey Vulture	45	40	131	15	34	259	424	25	84	10	127	23
Osprey		1	2		3		4	18	5	5	2	9
Northern Harrier					1	1		2	1	1	2	2
Sharp-shinned Hawk		2				7		6		7	1	
Cooper's Hawk		3	1		1	6	8	2	8	2	6	1
unidentified *Accipiter*						2	2					
Bald Eagle		1	5		5	6	13	7	36	15	14	5
Red-shouldered Hawk	1	1	3	5	23	13	88	7	18	2	28	4
Broad-winged Hawk	2	20			3	1	58	237	1,407	13		1
Red-tailed Hawk	5	5	1		2	20	14	3	7	1	11	1
unidentified *Buteo*									1			
Eastern Screech-Owl	1	1	1			3	6		1	2		1
Great Horned Owl						6	2		2			
Barred Owl		1	1		5	4	5	1	1		9	
Belted Kingfisher	4	1	3		17	18	27	4	4		7	4
Red-headed Woodpecker				2	5	15	2		2	2	1	
Red-bellied Woodpecker	8	11	36	40	73	150	272	28	34	4	70	10
Yellow-bellied Sapsucker	1	1		1							39	
Downy Woodpecker	7	6	6	18	42	86	183	24	22	5	11	19
Hairy Woodpecker	3	5	1	4	11	21	31	3	2	2	20	1
Northern Flicker	3	11	6	4	40	51	108	44	14	23	38	3
Pileated Woodpecker	3	9	17	6	28	26	71	8	7	2	20	3

Species	GA	AL	WA	FR	MO	CA	HO	BA	HA	CE	PG	AA
American Kestrel		1	2			14	7	13	7	2	38	
Merlin		2					2	3	3	1	1	
Peregrine Falcon							1	2	2		1	
Great Crested Flycatcher			4		3	1	3	4		1		1
Eastern Kingbird					1		5					1
Olive-sided Flycatcher		1								1		
Eastern Wood-Pewee	4	1	8	9	29	50	81	19	19	15	17	4
Yellow-bellied Flycatcher		1				1						
Acadian Flycatcher					7	3	9		3			1
Willow Flycatcher						1						
Traill's Flycatcher					1		2			1		
Least Flycatcher					1	1				2		
unidentified *Empidonax*			1		4	2	8				4	
Eastern Phoebe	28	24	5	8	8	24	57	6	6	2	19	4
White-eyed Vireo	1		1	2	7	26	30	2	1	3	13	3
Yellow-throated Vireo				3	2	13	11		5		1	1
Blue-headed Vireo	4	1				1	2		1			
Philadelphia Vireo	1	1					1			1		
Warbling Vireo				1	1		1	2	1		1	
Red-eyed Vireo	5	4	1	11	17	48	110	19	23	20	10	8
Blue Jay	48	51	86	80	195	338	762	93	113	12	115	57
American Crow	32	59	40	10	87	245	551	31	47	5	338	20
Fish Crow		2	5	2	37	35	87	4	15	35	9	14
unidentified crow			5	17	10		316				35	1
Common Raven	10	13	6	5	3	7	10		1		4	
Carolina Chickadee			36	30	87	109	278	37	45	6	54	32
Black-capped Chickadee	85	22										
Tufted Titmouse	31	13	20	13	69	103	243	31	39	4	58	27
Horned Lark						4	54					
Tree Swallow			25				8			1	6	
N. Rough-winged Swallow			70		1							
Purple Martin						8						
Barn Swallow		14				2					1	6
unidentified swallow					1							
Ruby-crowned Kinglet	1			1		1		1	3	3	1	
Golden-crowned Kinglet	1						1					
Cedar Waxwing	26	64	69	48	29	23	49	12	55	55	19	
Red-breasted Nuthatch	6	1				2				7	1	
White-breasted Nuthatch	28	13	10	27	68	111	224	26	24	5	18	12
Brown-headed Nuthatch												
Brown Creeper	4	1										
Blue-gray Gnatcatcher	1			2	7	13	10			6		
House Wren	11	1	1		16	26	49	16	6	3	12	2
Winter Wren							1	1				
Marsh Wren												
Carolina Wren	4	8	55	20	92	151	401	55	24	6	162	41
Gray Catbird	37	17	22	16	118	338	370	95	13	4	108	10
Brown Thrasher	3	9	1	2	18	32	32	9	3	1	20	
Northern Mockingbird		7	22	4	29	123	158	32	11	2	91	29
European Starling	47	369	415	22	410	1,011	882	116	95	10	1,233	422
Eastern Bluebird	10	40	39	3	54	200	396	27	32	1	115	8
Veery					6	9	9	3	3		1	
Gray-cheeked Thrush	1			1				1			1	

Species	GA	AL	WA	FR	MO	CA	HO	BA	HA	CE	PG	AA
Swainson's Thrush	3			1	13	173	6	7	9	3	2	1
Hermit Thrush	2					1						
unidentified *Catharus*												
Wood Thrush	3			11	6	37	15	7	6	2	2	1
American Robin	15	91	49	70	405	149	527	137	38	1	242	28
House Sparrow	8	140	19	22	90	157	244	43	20	14	166	65
American Pipit				3		3					1	
House Finch	19	33	14	20	45	48	146	30	15	1	38	37
Purple Finch	7											
American Goldfinch	59	50	71	17	106	104	354	79	27	2	121	20
Grasshopper Sparrow						1	1					
Chipping Sparrow	10	14	19		14	83	127	8	15	2	61	12
Clay-colored Sparrow												
Field Sparrow	3	4	7		2	6	19	5			3	2
Dark-eyed Junco	2											
White-throated Sparrow												
Seaside Sparrow												
Savannah Sparrow	13			1			3			1	3	
Song Sparrow	55	10	1	2	7	23	50	14	4		19	4
Lincoln's Sparrow				1								
Swamp Sparrow	7											
unidentified sparrow			3		2	5						
Eastern Towhee	21	7	5	10	16	39	66	4	6		4	
Yellow-breasted Chat						1						
Bobolink	3		27		1				16	5		
Eastern Meadowlark	6						3				7	
Orchard Oriole												
Baltimore Oriole					1					1		
Red-winged Blackbird	7	10			1020	74	104	36	17	43	381	189
Brown-headed Cowbird			51	1	114	73	225	22	96		278	31
Common Grackle		5	2		3	16	102	4			133	30
Boat-tailed Grackle												
unidentified blackbird								120			300	
Ovenbird			2	2		5	20	4	5		1	1
Worm-eating Warbler				1				1			1	
Northern Waterthrush							1			2	1	
Blue-winged Warbler							2					
Black-&-white Warbler	1	1		4	12	14	43	6	18	7	5	3
Prothonotary Warbler												
Tennessee Warbler	1	1			2	3	1	2	3	2	1	
Nashville Warbler					3	3	1		1	5		
Connecticut Warbler					1							
Mourning Warbler										1		
Kentucky Warbler								1				
Common Yellowthroat	37	5	5	1	16	31	61	27	5	6	13	5
Hooded Warbler				3		1						
American Redstart	5		1	5	19	26	89	22	12	20	10	5
Cape May Warbler	12	1			2	2		2	4	7	2	1
Northern Parula	2	1		3	12	18	37	3	23	25	3	4
Magnolia Warbler	9		1	2	9	7	24	13	24	15	5	
Bay-breasted Warbler	2			3	2	2	2		2	1		
Blackburnian Warbler	1				2	3	2		3	4		
Yellow Warbler						2		1		3	2	

Species	GA	AL	WA	FR	MO	CA	HO	BA	HA	CE	PG	AA
Chestnut-sided Warbler	6	2		2	4	3	10	4	9	8	1	
Blackpoll Warbler	3				3	6		3	20	11		
Black-throated Blue Warbler	1	1		1	1	5	6		1	6	1	
Palm Warbler	14				1	1	3		2	3	1	1
Pine Warbler	3	1			2	2	4	6		1	3	
Yellow-rumped Warbler						1				5		
Yellow-throated Warbler											1	
Prairie Warbler					1		2	2		2		
Black-throated Green Warbler	8		1	3	5	4	10	1	12	5	3	
Canada Warbler					1	3						
Wilson's Warbler	2											
unidentified warbler	1		1	2	3		32		11	26		
Summer Tanager											3	2
Scarlet Tanager	4	1	2	5	12	10	22		1	6	1	
Summer/Scarlet Tanager												
Northern Cardinal	20	21	62	34	138	281	447	72	49	1	77	58
Rose-breasted Grosbeak	3	1	2	1	5	5	5	2	6	2	3	
Blue Grosbeak					2		8	2		1	25	4
Indigo Bunting	4	1	1		8	15	29	2	9	4	19	
Dickcissel								1				
Total Birds												

Table 5. 2021 Maryland Fall Count: Southern Maryland, Eastern Shore, and total observed species.

Species	CH	CT	SM	KE	QA	TA	DO	CN	WI	WO	SO	Total
Canada Goose		395	10	177	39	306	435	392	19	37	87	4,316
Mute Swan												3
Trumpeter Swan												6
Wood Duck		74		22	3	6	96	19	2			442
Blue-winged Teal				206			7					213
Northern Shoveler				2			68					70
Gadwall							2					2
Mallard		100		36	3	372	99	24	49	16	19	1,236
American Black Duck		3		10			9				2	25
Northern Pintail				1			3					4
Green-winged Teal				19			30					71
Common Merganser												6
Ruddy Duck				8			22					34
Northern Bobwhite					1			3				4
Wild Turkey		1		15		24	3	41		1		245
Ring-necked Pheasant							2					2
Pied-billed Grebe							2		1		7	18
Rock Pigeon		5					7	30		5	52	977
Mourning Dove	1	142	11	31	60	104	132	333	11	7	34	4,433
Yellow-billed Cuckoo	3	7	1	3		3	5	6				90
Yellow-bill/Black-bill Cuckoo		1										1
Common Nighthawk												36
Chuck-will's-widow						5						5
Chimney Swift		15		3		1	2	167				2,263

Species	CH	CT	SM	KE	QA	TA	DO	CN	WI	WO	SO	Total
Ruby-throated Hummingbird	6	23	1	25	4	17	14	14	6	1	2	339
Clapper Rail		4					20			1	2	27
Clapper/King Rail		1										1
Virginia Rail		10					20				2	32
Sora		7					1					8
Common Gallinule												1
American Avocet				1								1
American Oystercatcher										38		38
Black-bellied Plover							1					2
Killdeer		19		13		6	27	10			1	246
Semipalmated Plover							6					6
Ruddy Turnstone										21		21
Stilt Sandpiper				15								15
Sanderling				3		3	16			113		135
Least Sandpiper		4	4	37		1	6	8		2		68
White-rumped Sandpiper				2								2
Pectoral Sandpiper		2		10			2	2				18
Semipalmated Sandpiper		3		76			4	8		13		105
Western Sandpiper							1					1
Short-billed Dowitcher				2								2
American Woodcock								2				5
Wilson's Snipe				4			5	5				14
Spotted Sandpiper		3		4			2					22
Solitary Sandpiper		1		1				2				8
Lesser Yellowlegs		2		96		14	34	90				244
Willet										2		2
Greater Yellowlegs		2		84		9	33	1		1	35	169
Laughing Gull	6	365	14	389	5	180	857	6		93	355	2,880
Ring-billed Gull		165	1	98	2	26	69	167		15	55	807
Herring Gull		220	15	11	1	59	363			45	64	858
Lesser Black-backed Gull		3				1				2		6
Great Black-backed Gull		800	3	4	19		47			7	4	972
unidentified gull		105				3	34				32	211
Caspian Tern		15	7	13	6	6	18	1		24		101
Common Tern		2	6	1		2	4			1		16
Forster's Tern		170	4	88	1	69	298			4	4	701
Common/Forster's Tern		1										1
Royal Tern		80	13	64	1	41	119			110	5	468
Sandwich Tern										4		4
Black Skimmer											116	116
Wood Stork												1
Double-crested Cormorant		400	130	65	7	468	381	13		15	14	1,748
American White Pelican							1					1
Brown Pelican			10			2	568			38		618
Least Bittern				1								1
Great Blue Heron	1	37	3	21	4	31	54	11		5	8	311
Great Egret				11	2	28	52	1		35	23	197
Snowy Egret		33		3		28	50	3		8	17	148
Little Blue Heron						3				1		5
Tricolored Heron		4					1			2	6	13
Cattle Egret		1				114	1			3		119
Green Heron		10		2		2	1	2			1	64
Black-crowned Night-Heron		3										10

Species	CH	CT	SM	KE	QA	TA	DO	CN	WI	WO	SO	Total
Yellow-crowned Night-Heron												3
White Ibis						1				5		6
Glossy Ibis										4		6
Black Vulture	3	140	3	13	29	24	23	123		3	40	816
Turkey Vulture	6	180	13	66	107	89	323	358	6	9	123	2,497
Osprey	2	40	5	9	5	25	18	4	1	5	2	165
Northern Harrier		3				1	2				4	20
Sharp-shinned Hawk		1				2	4	1			1	32
Cooper's Hawk		5		2	2	5	3	3	1			59
unidentified *Accipiter*				10						1		15
Bald Eagle	3	40	6	12	9	41	81	30	1	3	12	345
Red-shouldered Hawk	2	13	1	3	3		5	9				229
Broad-winged Hawk		1		4		12	7					1,766
Red-tailed Hawk	1	5		2		5	6	6	1	1		97
unidentified *Buteo*								1				2
Eastern Screech-Owl		11	2	4	2	9	36		2		2	84
Great Horned Owl		4		3		7	18	4			1	47
Barred Owl	1	6		4		2	6	8	1			55
Belted Kingfisher	3	14		4	1	7	13	5	2		5	143
Red-headed Woodpecker	1	10	2	2	3	1	37		2		3	90
Red-bellied Woodpecker	10	88	3	22	5	27	29	30	8	1	3	962
Yellow-bellied Sapsucker												42
Downy Woodpecker	9	67	1	27	8	26	48	18	12	4	3	652
Hairy Woodpecker	1	17	1	4	1		10	4		1		143
Northern Flicker	1	51	5	30	9	66	28	8	1	9	6	559
Pileated Woodpecker	2	33	1	6	3	12	18	17	2	1		295
American Kestrel	1	1		4	1	2	17	8	1			119
Merlin					1		1	1		1	2	18
Peregrine Falcon		1	1				4					12
Great Crested Flycatcher		6	1	4	1	3	7	2		1	1	43
Eastern Kingbird		2	1									10
Olive-sided Flycatcher												2
Eastern Wood-Pewee	4	43	6	28	14	16	31	8			1	407
Yellow-bellied Flycatcher		2		1								5
Acadian Flycatcher		26		2						1	1	53
Willow Flycatcher												1
Traill's Flycatcher				2	1							7
Least Flycatcher		4	2			1						11
unidentified *Empidonax*		1				5	8		1		1	35
Eastern Phoebe	2	19	1	13	2	10	4	5	1		10	258
White-eyed Vireo	2	25	1	2	1	1	18	4	4	2		149
Yellow-throated Vireo		7		1			1				1	46
Blue-headed Vireo				1								10
Philadelphia Vireo		1		1			1					7
Warbling Vireo												7
Red-eyed Vireo		93	15	24	9	15	29	15	1	2		479
Blue Jay	4	170	7	49	27	119	103	48	15	3	28	2,523
American Crow	6	230	9	20	8	93	144	124	13		22	2134
Fish Crow		30	1	5	2	13	2	107		10	21	436
unidentified crow		20		4	7	44	46		2		11	518
Common Raven		1				1						61
Carolina Chickadee	4	180	17	49	30	71	126	70	25	12	11	1,309
Black-capped Chickadee												107

Species	CH	CT	SM	KE	QA	TA	DO	CN	WI	WO	SO	Total
Tufted Titmouse	6	195	6	29	18	59	68	50	20	2	5	1,109
Horned Lark		7			12		5	21				103
Tree Swallow			1		8	35	48	1,626				1,758
N. Rough-winged Swallow												71
Purple Martin												8
Barn Swallow				2			2					27
unidentified swallow										7		8
Ruby-crowned Kinglet		2	1	6	2	4						26
Golden-crowned Kinglet												2
Cedar Waxwing		66		6	3	28		5		4		561
Red-breasted Nuthatch					1		1		2			21
White-breasted Nuthatch	2	52		1	5	25	4	11	2			668
Brown-headed Nuthatch		5	9	8		29	77			3	6	137
Brown Creeper		2										7
Blue-gray Gnatcatcher		22	2	4		9	17	1			2	96
House Wren		24	10	25	5	20	18		2	4		251
Winter Wren												2
Marsh Wren		7		1			7			1	1	17
Carolina Wren	22	230	17	54	21	74	162	85	20	4	31	1,739
Gray Catbird	8	49	6	25	13	37	60	8	6	3	10	1,373
Brown Thrasher		27	5	13	8	11	9	7	1		3	214
Northern Mockingbird	3	60	4	16	15	19	67	51	8	4	30	785
European Starling		525	30	149	24	244	950	835	12	27	173	8,001
Eastern Bluebird		170	7	24	14	68	50	47	4		21	1,330
Veery		13		36	2	11	21					114
Gray-cheeked Thrush		3		1	1							9
Swainson's Thrush		28		92	1	2	3	1				345
Hermit Thrush		1										4
unidentified *Catharus*		1										1
Wood Thrush		8	1	4		1		1				105
American Robin		53	3	50	4	32	19	198	2	3	3	2,119
House Sparrow		49		6	5	7	66	170	3	3	21	1,318
American Pipit				6								13
House Finch	2	58	4	4	9	28	7	42	9	8	4	621
Purple Finch												7
American Goldfinch	9	125	5	8	17	60	47	24	4	5	2	1,316
Grasshopper Sparrow					2							4
Chipping Sparrow		92	6	9	5	37	24	70	4	3	7	622
Clay-colored Sparrow										1		1
Field Sparrow		5			15	2	2	5	3		5	88
Dark-eyed Junco					1							3
White-throated Sparrow									2			2
Seaside Sparrow							2			1	2	5
Savannah Sparrow		6			1		5				3	36
Song Sparrow		31			1	1	4	2	1	5		234
Lincoln's Sparrow												1
Swamp Sparrow												7
unidentified sparrow						2	1					13
Eastern Towhee		11	2		1		2	3	2		1	200
Yellow-breasted Chat		5	3									9
Bobolink		133	5	6	46	2	1,041	9				1,294
Eastern Meadowlark		3		1			1	2				23
Orchard Oriole							1					1

Species	CH	CT	SM	KE	QA	TA	DO	CN	WI	WO	SO	Total
Baltimore Oriole		10	1	4		1	1		1	2		22
Red-winged Blackbird		1,400	8	80	7	44	812	25	26		31	4,314
Brown-headed Cowbird		120		35	401	118	138	340	16		102	2,161
Common Grackle		425	3			106	527	411		8	46	1,821
Boat-tailed Grackle							18			8	6	32
unidentified blackbird						20	50	515			15	1,020
Ovenbird		7		8		6	2					63
Worm-eating Warbler							1	1				5
Northern Waterthrush		8		1		1	3					17
Blue-winged Warbler				3								5
Black-&-white Warbler		69	22	10	3	47	27	12	3	4		311
Prothonotary Warbler								1				1
Tennessee Warbler		3		2		1	2			1		25
Nashville Warbler		4		2		1						20
Connecticut Warbler		1		1								3
Mourning Warbler												1
Kentucky Warbler		2										3
Common Yellowthroat	2	86	17	17	19	48	49	3	2	5	6	466
Hooded Warbler		4	1									9
American Redstart	1	80	39	30	9	34	57	29	10	5	3	511
Cape May Warbler		20	1		1	1	6	4	1	1		68
Northern Parula	3	98	20	28	19	19	34	20	6	2	1	381
Magnolia Warbler	2	34	3	24	9	16	13	5				215
Bay-breasted Warbler		9		2	2	2	3					32
Blackburnian Warbler		2		2		2	2			3		26
Yellow Warbler		14	1	1		1	1	2		2		30
Chestnut-sided Warbler		8		7	4	2	2	1	1			74
Blackpoll Warbler		14	1	5			2			2		70
Black-throated Blue Warbler		5		1		7	3	1				40
Palm Warbler		13	2	3		1	1			2		48
Pine Warbler		19	17	3	4	21	66	7	6	4	1	170
Yellow-rumped Warbler		4		2	1	2	1	12		1	6	35
Yellow-throated Warbler		2		1			1					5
Prairie Warbler		3	3	2	2	1	2					20
Black-throated Green Warbler		1		4	5	1	3					66
Canada Warbler		1		1		2		1				9
Wilson's Warbler		2								1		5
unidentified warbler	2	90		1	4							173
Summer Tanager		18	3				11	9	2		2	50
Scarlet Tanager		17	2	5		2	11	1				102
Summer/Scarlet Tanager		1										1
Northern Cardinal	5	310	16	77	26	78	107	91	22	6	78	2,076
Rose-breasted Grosbeak		14		14		1	3			1		68
Blue Grosbeak		20	3	7	14	7	41	15			2	151
Indigo Bunting	4	84	1	30	15		3	7	2			238
Dickcissel												1
Total Birds												**86,101**

Maryland Birdlife 71(1):59–62

2021 Fall Flyway Report – Harford County, Maryland

Mark S. Johnson[1] and Amanda K. Subolefsky[2]

[1]*3204 Bryson Ct. Baldwin, Maryland 21013*
marksjohnson2@gmail.com
[2]*1615 Deerfield Road Darlington, Maryland 21034*
amandasubolefsky@gmail.com

INTRODUCTION

Capture-mark-recapture techniques are used to assist wildlife biologists in making observations on relative abundance by marking individuals with specifically numbered leg bands. This information can be useful in estimating habitat use when making land management decisions particularly in areas experiencing urban sprawl. Here we provide data from two banding stations in Harford County within Central Maryland.

Consistent with the format of data presented in the Mid-Atlantic Fall Flyway report (previously published annually in *North American Bird Bander* [*NABB*]), we provide results for the fall of 2021.

Banding Station Descriptions

Detailed descriptions for both banding stations can be found in Johnson and Subolefsky (2021). Briefly, the Eden Mill Banding Station is located at the confluence of Deer Creek and Big Branch in northern Harford County (39°40.37′N, 76°27.19′W). A dam at the mill forms a lake area that reaches and passes this confluence. The land is owned and managed by the Harford County Parks and Recreation Department and is in a rural area of Harford County. Habitat consists of late secondary successional growth containing predominantly eastern redcedar (*Juniperus virginiana*), black walnut (*Juglans nigra*), red maple (*Acer rubrum*), pignut hickory (*Carya glabra*), shrubs including northern spicebush (*Lindera benzoin*), and multiple exotics. Northern and western portions transition to forest dominated by white oak (*Quercus alba*) and American beech (*Fagus grandifolia*), and the eastern and southern edges are bordered by wetlands. Up to 14, 12-m (40-ft) nets are opened weekly from late August to early November.

The Harford Glen Banding Station (39°29.17′N, 76°20.37′W) is in an area operated by the Harford County Public Schools system south of the town of Bel Air in central Harford County. The nets are dispersed in the transitional forest

opening to the delta of Plum Tree Run and Winter's Run. Plants include multiple species of grasses (Poaceae/Gramineae) and willows (*Salix* spp.); common trees in nearby forest are primarily white oak and American beech. Multiflora rose (*Rosa multiflora*) is a common understory shrub along with northern spicebush and southern arrowwood (*Viburnum dentatum*). Expansion of development in the area is significant where single family housing surrounds the area.

OBSERVATIONS

In general, fall 2021 had fewer dates that impacted activities due to inclement weather than did 2020. Warmer weather extending into October is consistent with some species of warblers being found beyond dates where migration is reported to peak.

Eden Mill – Capture rates were relatively consistent with the previous year (Table 1). Best date for captures (30 October) included more than 91 individuals captured, which was nearly identical to last year (31 October with 96 individuals). Warblers included Tennessee, Connecticut, Magnolia, Canada, Black-and-white, Black-throated Blue, Common Yellowthroat, and Ovenbird. On 15 September we caught our first Golden-winged Warbler (Figure 1) and a year high of five Blackpoll Warblers were captured (Figure 1). Proportions of hatching year birds were similar to last year (85% versus 82%, respectfully). In addition to those previously mentioned, highlights included a young Sharp-shinned Hawk. *Catharus* thrushes were relatively numerous (N=13) to include three Gray-cheeked and five Swainson's Thrushes. Together, 236 individuals of 36 species were banded and 24 were recaptures.

We continue to mentor college students and have provided instruction to two students this year.

Harford Glen – Productivity (determined by number of birds per 100 net-hours) was slightly lower at Harford Glen, likely attributed to more nets increasing the relative amount of effort (Table 1). Six warbler species were encountered to include Tennessee, Black-throated Blue, Magnolia, Yellow-rumped (Myrtle), Common Yellowthroat, and American Redstart. Highlights included a Cooper's Hawk and a foreign hatching-year male Sharp-shinned Hawk that was originally banded on 17 October in Lehigh County, Pennsylvania, approximately 161 km (100 mi) from Harford Glen. This was the first foreign recapture since 2006. Two Tennessee Warblers were banded as were 10 Black-throated Blue Warblers. Blue Jays are often difficult to catch as the nets are 30-mm (1.2-in) mesh and designed to catch songbirds; however, fourteen were banded this fall. The most frequently captured species for Harford Glen and Eden Mill are presented in Table 2.

Table 1. Productivity summary data, fall 2020.

	Eden Mill	Harford Glen
First day	39 August	14 September
Last day	5 November	16 November
Days open	10	16
Nets used	14	15
Net hours	517	757
Best day	91	38
Best day date	30 October	30 September
Most species	16	14
Most species date	2 October	30 September and 12 October
Banded 2020	252	337
Banded 2021	236	287
Species 2020	33	40
Species 2021	36	38
Birds/100 net hours 2020	72.5	53.6
Birds/100 net hours 2021	45.6	46.2
% Hatching year 2020	82%	89%
% Hatching year 2021	85%	74%

Figure 1. Golden-winged Warbler, *Vermivora chrysoptera* (left) and Blackpoll Warbler, *Setophaga striata* (right). Eden Mill Banding Station, photographed by Mark S. Johnson during the fall 2021 banding season.

Table 2. Ten most commonly banded species, fall 2021. The first number (**No.**) indicates the number of individuals of each species banded and the final number (**%HY**) is the percentage determined to be hatching year birds.

Eden Mill			Harford Glen		
No.	**Species**	**%HY**	**No.**	**Species**	**%HY**
36	White-throated Sparrow	78	52	Gray Catbird	90
34	Gray Catbird	84	47	Northern Cardinal	47
31	Northern Cardinal	74	35	White-throated Sparrow	57
24	American Goldfinch	02	21	Song Sparrow	81
14	Song Sparrow	100	14	Blue Jay	36
7	Indigo Bunting	57	10	Black-throated Blue Warbler	50
7	Swamp Sparrow	100	10	Common Grackle	100
7	Tufted Titmouse	100	9	Eastern Towhee	100
6	Wood Thrush	100	8	Tufted Titmouse	100
6	Hermit Thrush	100	7	Carolina Wren	100

DISCUSSION

Fall encounters in 2021 were generally very similar to that of the previous year (Johnson and Subolefsky 2020). However, some species shifted in their relative abundance. That for the first time in over twenty years, a Golden-winged Warbler was captured was consistent with the increased sightings of individuals in Harford County this past fall. Blackpoll Warblers were encountered as late as mid-October and five all hatching year birds was a high for Eden Mill suggesting a good year for species that breed farther north.

ACKNOWLEDGMENTS

Many thanks to volunteers from Eden Mill and Harford Glen: Al Conrad, Dr. Dennis Kirkwood, Dr. Dave Larkin, Mary Murray, Phil Powers, Suzanne Procell, Dr. Jane Scocca, Nick Spigler, Joe Subolefsky, Mary Trotta, Dr. Robert Werrlein, Jean Wheeler, and Mike White. Together they put in more than 850 volunteer hours over the course of this season.

LITERATURE CITED

Johnson, M.S., and A.H. Subolefsky. 2021. 2020 Fall Flyway Report – Harford County, Maryland. *Maryland Birdlife* 70(1):62–67.

Maryland Birdlife 71(1):63

Descriptions of Maryland Birds by Colonial Naturalist Henry Callister: Corrigendum

On page 19, paragraph 3, of Descriptions of Maryland Birds by Colonial Naturalist Henry Callister (Lawler and Rubin 2021), please replace:

"Many of these ideas are remarkably advanced for seventeenth century America."

with:

"Many of these ideas are remarkably advanced for eighteenth century America."

LITERATURE CITED

Lawler, E.M., and S.A. Rubin. 2021 Descriptions of Maryland birds by colonial naturalist Henry Callister. *Maryland Birdlife* 70(2):2–22.

Maryland Birdlife 71(1):63

A White-throated Sparrow, *Zonotrichia albicollis*, with Probable 'progressive graying': Corrigendum

On page 73, paragraph 1, of A White-throated Sparrow, *Zonotrichia albicollis*, with Probable 'progressive graying' (Young and Gregg 2021), please replace:

"As 'leucism' would not spare the yellow, this strengthens the likelihood of 'progressive graying'."

with:

"As 'leucism' would also spare the yellow, this does not change the likelihood of 'progressive graying'."

LITERATURE CITED

Young W.S., and L.H. Gregg. 2021. A White-throated Sparrow, *Zonotrichia albicollis*, with probable 'progressive graying'. *Maryland Birdlife* 70(2):71–74.

Maryland Birdlife 71(1):64

2020 Maryland Mid-winter Bird Count: Corrigendum

The Chesapeake and Ohio (C&O) Canal data shown in the 2020 Maryland Mid-winter Bird Count (Norton 2020) are hereby revised. The "Total Birds" value is revised to 13,565 (Table 2). In addition, the values for 19 species are revised as shown below (Table 3). Additional C&O Mid-winter count information can be found on eBird at https://ebird.org/checklist/S66189734.

Table 2. 2020 Maryland Mid-winter Bird Count: Summary. [*C&O corrected value*]

	C&O
Total Birds	13,565

Table 3. 2020 Maryland Mid-winter Bird Count: Observed species. [*C&O corrected values*]

Species	C&O
Rock Pigeon	208
Mourning Dove	170
Red bellied Woodpecker	488
Downy Woodpecker	316
Northern Flicker	115
Blue Jay	267
American Crow	505
Common Raven	70
Carolina Chickadee	391
Tufted Titmouse	248
Red breasted Nuthatch	1
White breasted Nuthatch	306
Carolina Wren	727
House Sparrow	39
House Finch	23
White throated Sparrow	990
Song Sparrow	397
Yellow rumped Warbler	177
Northern Cardinal	489

LITERATURE CITED

Norton, E.L. 2020. 2020 Maryland Mid-winter Bird Count. *Maryland Birdlife* 69(2):79–84.

Maryland Birdlife 71(1):65

Maryland Christmas Bird Counts (121st CBC) December 2020 through January 2021: Corrigendum

The Point Lookout data shown in the Maryland Christmas Bird Counts (121st CBC) December 2020 through January 2021 (Churchill 2021) are hereby revised. The Brown-headed Nuthatch value for Point Lookout (Table 4) is revised to 60 birds.

Table 4. 2020–2021 Maryland Christmas Bird Counts: Tidewater counts.
[*Point Lookout corrected Brown-headed Nuthatch value.*]

Species	Middle River	Annapolis-Gibson Island	Patuxent River	Jug Bay	Point Lookout	Lower Kent County	Denton	Port Tobacco	St. Michaels	Southern Dorchester County	Crisfield	Salisbury	Ocean City
Brown-headed Nuthatch			22		60	17			52	231	119	27	66

LITERATURE CITED

Churchill, J.B. 2021. Maryland Christmas Bird Counts (121st CBC) December 2020 through January 2021. *Maryland Birdlife* 70(2):75–88.

Maryland Birdlife 71(1):66

Peer Reviewers – 2019–2021

Mark S. Johnson

3204 Bryson Court, Baldwin, Maryland 21013
MarkSJohnson2@gmail.com

The content of *Maryland Birdlife* depends upon the contributions of various scientists, investigators, authors, and avian enthusiasts who take the time to submit their observations and research for publication. It also depends upon the many reviewers who devote the time and provide helpful suggestions for improving each submission. The editors of *Maryland Birdlife* would like to thank all of the following individuals for their timely contributions in reviewing these submissions for the last three years.

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Maryland Birdlife 71(1):67–68

Maryland Ornithological Society Sanctuaries – 2022

The Maryland Ornithological Society owns ten sanctuaries located throughout the state, from Garrett County in Western Maryland to Somerset County on Maryland's Lower Eastern Shore. They range in size from 8 acres to 2,326 acres and protect a total of 2,990 acres of woodlands, open fields, swamps and marshes. MOS members can visit the sanctuaries to conduct research or simply enjoy nature.

Carey Run
Garrett County
160 Carey Run Road, Frostburg, MD 21532
162 acres
Trails; mix of fields, deciduous woodlands, hemlock groves, streams, pond
Onsite parking

Caroline W. Wilson
Garrett County
No road frontage; nearest house is at 174 Altamont Tower Road, Oakland, MD 21561; access sanctuary from railroad tracks heading north that cross the driveway to the house at 174 Altamont Tower Road
86 acres
Trails; hardwood forests, stream, freshwater wetlands
No onsite or roadside parking; space for several cars along the railroad right-of-way near the driveway to the house at 174 Altamont Tower Road

Chandler & Eleanor Robbins Sanctuary at Red Run
Garrett County
160 Guthrie Lane, Grantsville, MD 21536
45 acres
Partial trails; wooded swampland, mix of deciduous and coniferous trees, bog, stream
Roadside parking; one to two cars along Guthrie Lane

Irish Grove
Somerset County
4110 Rumbly Point Road, Marion Station, MD 21838
2,326 acres
Trails; saltmarsh, brackish marsh, loblolly pine woods, fresh and saltwater ponds
Onsite parking

Mandares Creek
Anne Arundel County
North of house at 1308 River Road, Crownsville, MD 21032
8 acres
No trails; waterfront deciduous swamp forest, phragmites marsh
No onsite or roadside parking; must obtain permission to park at the Garman Brothers sawmill lot at 1270 River Road

Marengo Woods
Talbot County
26216 Marengo Road (NE corner of Marengo Road & Gregory Road), Easton, MD 21061
49 acres
No trails; coniferous forest with scattered hardwoods
Onsite parking

Mill Creek
Talbot County
Old Wye Mills Road (Maryland Route 662), Queen Anne, MD 21657
156 acres
Partial trails; deciduous forest with valleys and streams
Onsite parking just east of private home at 13138 Old Wye Mills Road

Myrtle Simons Pelot
Caroline County
South of house at 14185 Drapers Mill Road, Greensboro, MD 21639
61 acres
Partial trails; deciduous forest, swampy area, freshwater stream, wetland
Onsite parking

Piscataway
Prince George's County
14302 Hardy Tavern Drive, Accokeek, MD 20607
82 acres
Trails; wooded with beech, oak, tulip poplar, and sweet gum predominating
Onsite parking

Seymour B. Cooper
Frederick County
Between 7001 and 7127 Eylers Valley Flint Road, Sabillasville, MD 21780
14 acres
No trails; deciduous forest
Roadside parking on wide shoulder

For additional information and maps for the Maryland Ornithological Society sanctuaries, please visit: https://mdbirds.org/conservation/refuges-sanctuaries/ .

MARYLAND BIRDLIFE

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Contributors should prepare manuscripts according to the following instructions.

Title: The title should be brief, concise, and pertinent.

Abstract: An abstract is required for all long articles; suggested for all biologic studies more than two (2) pages in length; but is not needed for notes, distribution reports, or short observations (especially if two pages or shorter in length). The abstract should provide a capsule description of the main thrust, methods, and essential findings of the article. It should contain the scientific name of the main subject species.

Text: Manuscripts should be double-spaced, lines numbered, and submitted in MS Word™ by e-mail. Please identify respective file name(s) for text, figure titles, and descriptions of graphs or figures. First mention of a biological organism, in the abstract and text should include the full scientific name in italics. Carefully check the spelling of all scientific names. Capitalize the first letter of each word comprising the "official" common name for faunal species. Short articles and general notes (20 pages or less) are preferred. Camera-ready, color illustrations, pictures, or digital images are preferred.

References: References should be given in an author-date format: (Robbins 1987); (Robbins 1987, 1988); (Robbins, in press); (Robbins, in litt.); (Robbins, pers. comm.); (Robbins and Robbins 1987); and (Robbins et al. 1987) for three or more authors. Provide evidence of acceptance for works "in press," or cite as "unpublished", "in litt." (written), or "pers. comm." (verbal), written permission is suggested as well. Citations shall be listed alphabetically, under LITERATURE CITED, as in the following examples: **Articles**: Robbins, C.S. 1965. New breeding bird survey tested in Maryland this summer. *Maryland Birdlife* 21(2):48–49. Do not abbreviate the titles of journals. **Books**: Ellison, W.G. (Editor). 2010. *2nd Atlas of the Breeding Birds of Maryland and the District of Columbia*. The Johns Hopkins University Press, Baltimore, MD. 494 pp. **Internet**: Ritchison, G., F.R. Gehlbach, P. Pyle, and M.A. Patten. 2020. Eastern Screech-Owl (*Megascops asio*), version 1.0 (text last updated 7 March 2017). In Birds of the World (P.G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. Available at: https://doi.org/10.2173/bow.easowl1.01. Accessed 23 October 2021.

Tables: Tables, graphs, and line drawings should be created electronically in black and white. Color should only be used when absolutely necessary for clarity.

Illustrations: Photographs or high-definition images may be accepted if necessary or desired by the author(s) to support the text. Photographs should be submitted in color. Figure numbers, as cited in the text, and figure legends should be keyed to each respective photograph.

Maryland Birdlife is published twice annually to record and encourage the study of birds in and around Maryland. ***Maryland Birdlife*** contains original articles, notes, and research papers primarily pertaining to Maryland and the Mid-Atlantic region. Potential topics may include geographic or temporal distribution, ecology, biology, morphology, systematics, behavior, migration, life history, as well as other biological topics. Annual bird counts also will be published. All submissions are subject to editorial review and acceptance. Articles and research papers will be peer-reviewed. Please e-mail submissions to Editor Eugene J. Scarpulla at birdlife@mdbirds.org.

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Editor: Eugene J. Scarpulla, 14207 Lakerun Court, Bowie, MD 20720-4861
birdlife@mdbirds.org
Associate Editor: Mark S. Johnson, 3204 Bryson Court, Baldwin, MD 21013
MarkSJohnson2@gmail.com

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